

In the United States Court of Federal Claims

No. 09-587C; No. 98-488C

Originally Filed: January 31, 2013; Withdrawn and

Reissued as Corrected: March 12, 2013,

nunc pro tunc to January 31, 2013

SACRAMENTO MUNICIPAL UTILITY
DISTRICT,

Plaintiff,

v.

THE UNITED STATES,

Defendant.

* Collateral Estoppel;
* Law of the Case Doctrine;
* Mandate Doctrine;
* Mitigation Costs;
* Nuclear Waste Policy Act, 42
* U.S.C. §§10101-10270 (2006);
* 10 C.F.R. Part 171 (NRC fees);
* 10 C.F.R. § 961.11, Art. VI B; V D
* (exchange rights);
* Fed. R. Evid. 702 (expert opinions);
* RCFC 26(a)(1)(A)(iii) (disclosure of
* damages);
* RESTATEMENT (SECOND) OF CONTRACTS
* (1981);
* RESTATEMENT (SECOND) OF JUDGMENTS
* (1982).
*

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MEMORANDUM OPINION AND FINAL ORDER

BRADEN, *Judge*.

This Memorandum Opinion and Final Order adjudicates claims alleged in a September 4, 2009 Complaint, filed by Sacramento Municipal Utility District (“SMUD”), for mitigation costs incurred from January 1, 2004 to December 31, 2009, as a result of the Department of Energy’s (“DOE”) breach of a June 14, 1983 contract between SMUD and DOE (the “Standard Contract”), that was required by the Nuclear Waste Policy Act (“NWPA”), 42 U.S.C. §§ 10101-10270 (2006). The Standard Contract obligated DOE to begin to dispose and store SMUD’s

spent nuclear fuel (“SNF”) and high-level waste (“HLW”), by January 31, 1998, and to continue to do so until disposal was complete. *See* 42 U.S.C. § 10222(a)(5)(B). In exchange for DOE’s disposal and storage services, SMUD was required to pay a fee that was deposited in the Nuclear Waste Fund. *See* 42 U.S.C. § 10222(a)(5)(B).¹

Over a decade ago, the United States Court of Appeals for the Federal Circuit held that DOE’s failure to dispose and store SNF and HLW generated by the nuclear-utility parties to the Standard Contract by January 31, 1998, was a partial breach thereof. *See Maine Yankee Atomic Power Co. v. United States*, 225 F.3d 1336, 1342-43 (Fed. Cir. 2000). To date, DOE has not disposed of nor stored the SNF or HLW of SMUD or of any other nuclear-utility party to the Standard Contract.

To facilitate a review of this Memorandum Opinion and Final Order, the court has provided the following outline:

I. FACTUAL BACKGROUND AND RELEVANT PROCEDURAL HISTORY.

- A. *Sacramento Municipal Utility District v. United States*, Civil Action Docket No. 98-488C.**
- B. *Sacramento Municipal Utility District v. United States*, Civil Action Docket No. 09-587C.**

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- A. Whether Plaintiff’s Spent Nuclear Fuel And High Level Waste Would Have Been Removed Prior To January 1, 2004, Utilizing The Standard Contract’s Exchange Provision.**
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 - 2. The Government’s Response.**
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 - 4. The Court’s Resolution.**
- B. Whether Plaintiff Would Have Stored Class B And C Waste Onsite In The Non-Breach World.**
 - 1. The Plaintiff’s Argument.**
 - 2. The Government’s Response.**

¹ If SMUD had declined to become a party to the Standard Contract, the Nuclear Regulatory Commission (“NRC”) would not have renewed SMUD’s nuclear operating license. *See* 42 U.S.C. § 10222(b)(1)(A).

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 - a. The Plaintiff's Argument.**
 - b. The Government's Response.**
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 - a. The Plaintiff's Argument.**
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 - c. The Court's Resolution.**
- 8. Whether Plaintiff Is Entitled To The Cost Of Greater-Than-Class-C Storage.**
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- 9. Whether Plaintiff Is Entitled To Certain Overhead Costs.**
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 - b. The Government's Response.**
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- 10. Whether Plaintiff Is Entitled To The Cost Of Capital.**
 - a. The Plaintiff's Argument.**
 - b. The Government's Response.**
 - c. The Court's Resolution.**

E. Whether The Government Is Entitled To An Offset For The Costs That Plaintiff Would Have Incurred From January 1, 2004, Through 2008 To Operate The Wet Pool.

- 1. The Government's Argument.**
- 2. The Plaintiff's Response.**
- 3. The Court's Resolution.**

III. CONCLUSION.

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I. FACTUAL BACKGROUND AND RELEVANT PROCEDURAL HISTORY.

A. *Sacramento Municipal Utility District v. United States*, Civil Action Docket No. 98-488C.²

The Rancho Seco Nuclear Generating Station Unit 1 (“Rancho Seco”) was a nuclear-powered power plant, located in Sacramento County, California, that was operated by SMUD. *See SMUD III*, 70 Fed. Cl. at 339. As a result of a public referendum, on June 7, 1989, SMUD’s Board of Directors decided to shut down Rancho Seco permanently. *Id.* at 340. Thereafter, SMUD began to investigate options to decommission Rancho Seco and store its SNF in a dual-purpose dry-storage facility, instead of the wet pool that SMUD was using at that time. *Id.* at 341.

On June 9, 1998, SMUD filed a Complaint in the United States Court of Federal Claims alleging, among other claims, that DOE breached the Standard Contract, for which SMUD was

² The following Memorandum Opinions and Orders were issued in Docket No. 98-488C: *Sacramento Mun. Util. Dist. v. United States*, 61 Fed. Cl. 438 (2004) (“*SMUD I*”) (denying the Government’s motion to dismiss SMUD’s takings claim and dismissing SMUD’s illegal exaction claim); *Sacramento Mun. Util. Dist. v. United States*, 63 Fed. Cl. 495 (2005) (“*SMUD II*”) (determining that DOE was liable for a partial breach of the Standard Contract when it failed to begin to dispose of SMUD’s SNF by January 31, 1998); *Sacramento Mun. Util. Dist. v. United States*, 70 Fed. Cl. 332 (2006) (“*SMUD III*”) (determining that SMUD was entitled to mitigation damages for certain costs incurred as a result of DOE’s partial breach of the Standard Contract); *Sacramento Mun. Util. Dist. v. United States*, 74 Fed. Cl. 727 (2006) (“*SMUD IV*”) (determining that SMUD was entitled to an award of \$39,796,234 in mitigation costs caused by DOE’s partial breach of the Standard Contract); *Sacramento Mun. Util. Dist. v. United States*, 293 F. App’x 766 (Fed. Cir. 2008) (unpublished) (“*SMUD V*”) (affirming-in-part *SMUD II-IV* and remanding for the trial court to determine causation, in light of the 1987 Annual Capacity Report, and to determine other mitigation costs); and *Sacramento Mun. Util. Dist. v. United States*, 91 Fed. Cl. 9 (2009) (“*SMUD VI*”) (on remand determining that SMUD was entitled to mitigation costs of \$53,159,863, but staying entry of a final judgment, pending resolution of this case, Docket No. 09-587C).

entitled to mitigation costs for a period that eventually would span from January 1, 1992 to December 31, 2003. *Id.* at 356-57. On March 30, 1990, a proposal was adopted by SMUD to move its SNF from wet pool storage to a dry storage system, primarily because of the projected savings. *Id.* at 342. After several delays, the construction of an Independent Spent Fuel Storage Installation (“ISFSI”), to implement dry storage, was completed in 2001. *Id.* at 355. From April 2001 to August 2002, SMUD moved twenty-one canisters of SNF into the ISFSI. *Id.* at 355-56.

On January 19, 2005, the court determined that DOE was liable for the January 31, 1998 partial breach of the Standard Contract. *See SMUD II*, 63 Fed. Cl. at 506. On March 31, 2006, the court determined that DOE’s January 31, 1998 partial breach of the Standard Contract entitled SMUD to certain mitigation costs, incurred from May 15, 1997 to December 31, 2003. *See SMUD III*, 70 Fed. Cl. at 367-73 (determining that SMUD was entitled to recover mitigation costs for: dry storage; labor severance and recruiting; dry storage project delays; spent nuclear fuel; ISFSI operation and maintenance; gantry crane refurbishment; and the preparation, packaging, inspection, and loading of SNF). The court, however, denied SMUD’s recovery of other claimed mitigation costs. *Id.* at 373-78 (determining that SMUD was not entitled to mitigation costs for: dual purpose dry storage; related contract, lease, or other legal obligations; certain aspects of the ISFSI construction; internal labor costs; overhead costs; and onsite drop-testing). The court also determined that DOE was entitled to an offset of \$4,196,360 for the amount that “SMUD saved [in 2003] by placing SNF into dry storage and decommissioning the wet pool[.]” *Id.* at 375. In reaching this conclusion, the court rejected SMUD’s contention that it “would have been successful in trading SMUD’s acceptance priority with another utility or convincing DOE to accept SMUD’s SNF early,” *i.e.*, prior to 2003. *Id.* Thereafter, supplemental expert testimony was proffered in this case to ascertain SMUD’s specific mitigation costs, whereupon the court determined that SMUD was entitled to recover \$39,796,234. *See SMUD IV*, 74 Fed. Cl. at 730, 735. SMUD and the Government filed cross-appeals.

On August 7, 2008, the United States Court of Appeals for the Federal Circuit issued an opinion, affirming-in-part and reversing-in-part *SMUD IV*, and remanding Civil Action Docket No. 98-488C, instructing the court to determine causation by applying the 1987 Annual Capacity Report (“1987 ACR”) acceptance rate. *See SMUD V*, 293 F. App’x at 771. On remand, applying the 1987 ACR acceptance rate, the United States Court of Federal Claims determined that SMUD established entitlement to \$39,796,234 in mitigation costs. *See SMUD VI*, 91 Fed. Cl. at 18.³ In addition, the court “restor[ed] the \$13,363,629 in offsets allowed by the appellate court,” for a total award of \$53,159,863. *Id.* The court also determined that the Government was still entitled to an offset of \$4,196,360 for wet pool savings realized by SMUD in 2003, since

³ The United States Court of Appeals for the Federal Circuit has held that, because there has only been a partial breach of the Standard Contract, “[a] plaintiff can recover only such damages as he or she has sustained, leaving prospective damages to a later suit in the event of further breaches.” *Ind. Mich. Power Co. v. United States*, 422 F.3d 1369, 1377 (Fed. Cir. 2005); *see also id.* at 1378 (“Accordingly, [plaintiff] must bring any future actions for damages related to DOE’s breach of the Standard Contract within six years of incurring such damages.”). Therefore, SMUD was entitled in Civil Action Docket No. 98-488C to mitigation costs incurred during the relevant period, *i.e.*, up to December 31, 2003. Any future costs would only be recovered in a separate action.

“that ruling was not reversed on appeal.” *Id.* But, the court rejected the Government’s request that the court offset this same amount of wet pool savings for January 1, 2004 to December 31, 2008, because “it is proper to account for any 2004-2008 SNF wet pool savings offset in [Docket No. 09-587C].” *Id.* at 19. Instead, the court ordered that Civil Action Docket No. 98-488C be stayed, pending the court’s resolution of Civil Action Docket No. 09-587C, to determine whether SMUD would have achieved any savings during those years from the decommissioning of its wet pool and, if so, the amount to be offset against SMUD’s recovery in Docket No. 98-488C, because “the amount of costs SMUD may seek in [Docket No. 09-587C may] not be sufficient to allow the Government to recoup the amount of SNF wet pool savings realized from 2004-2008.” *Id.*

On March 12, 2010, SMUD filed a Petition for a Writ of Mandamus requesting that the United States Court of Appeals for the Federal Circuit order the court to lift the stay in Civil Action Docket No. 98-488C that prevented entry of final judgment in *SMUD VI*. On September 16, 2010, SMUD’s Petition was denied. *See In re Sacramento Mun. Util. Dist.*, 395 F. App’x 684, 688 (Fed. Cir. 2010) (unpublished).

B. *Sacramento Municipal Utility District v. United States*, Civil Action Docket No. 09-587C.

On September 4, 2009, SMUD filed a Complaint in this case, Civil Action Docket No. 09-587C, alleging that DOE was in partial breach of the Standard Contract and had violated the implied covenants of good faith and fair dealing, for which SMUD was entitled to mitigation costs incurred after January 1, 2004. 9/4/09 Complaint.⁴

On November 3, 2009, the Government filed an Answer And First Affirmative Defense alleging that, to the extent not barred by *N. States Power Co. v. Dep’t of Energy*, 128 F.3d 754 (D.C. Cir. 1997), “the ‘unavoidable delays’ clause of the [S]tandard [C]ontract would affect or eliminate the Government’s liability for, and/or [SMUD’s] ability to recover, damages for DOE’s delay.” Answer at 9.⁵

⁴ The underlying facts in Docket No. 09-587C were set forth in *SMUD III* and *SMUD IV* and are also derived from: the Government’s November 3, 2009 Answer (“Answer”); Joint Exhibits in Docket No. 98-488C (JX 1-6000); Plaintiff’s Exhibits (PX 6001-6358); the Government’s Exhibits (DX 6001-6245); and the transcript of a trial of Docket no. 09-587C held October 24-27, 2011 (“TR at 1-1163”).

⁵ Subsequently, the United States Court of Appeals for the Federal Circuit held *en banc* that the decision in *Northern States Power* has *res judicata* effect on the partial breach of Standard Contract cases filed in the United States Court of Federal Claims, because the United States Court of Appeals for the District of Columbia’s ruling was not barred by sovereign immunity and did not “impermissibly invade” the jurisdiction of the United States Court of Federal Claims to adjudicate the partial breach and mitigation cost claims at issue. *See Neb. Pub. Power Dist. v. United States*, 590 F.3d 1357, 1376 (Fed. Cir. 2010).

On February 19, 2010, SMUD served the Government with Initial Disclosures, including “a computation of each category of damages claimed by the disclosing party.” RCFC 26(a)(1)(A)(iii). Therein, SMUD estimated “that its mitigation damages [were] in the range of approximately \$31 million to \$37 million for 2004 through 2010.” Pl. Discl. at 4.

On April 23, 2010, the parties filed a Joint Motion For Protective Order that the court granted on April 26, 2010.

On July 16, 2010, SMUD produced additional information, including a spreadsheet itemizing mitigation costs claimed for the period of 2004 through 2010.

On December 10, 2010, SMUD served the Government with a Damages Expert Report to explain the basis of mitigation costs for 2004 through 2009, and advised the Government that this Expert Report would be supplemented to include 2010 mitigation costs after SMUD’s expert completed his review of all of the supporting documents. On March 8, 2011, the Government deposed SMUD’s damages expert, during which he testified that he planned to supplement the December 10, 2010 Expert Report, but was waiting for SMUD’s counsel to provide final documentation.

In late March 2011, SMUD’s counsel informed the Government that the Supplemental Damages Expert Report was nearly completed. On April 8, 2011, however, the Government objected to including any 2010 mitigation costs in this proceeding, but would agree to do so only if SMUD agreed to afford the Government an extra two-and-a-half months to submit its Expert Reports. On April 13, 2011, SMUD’s counsel replied that the Government had sufficient notice of SMUD’s intent to seek 2010 mitigation costs in this proceeding. On April 18, 2011, the court convened a status conference to discuss this issue. During that conference, the Government represented that it conducted discovery of SMUD’s mitigation costs for 2004 through 2009, but not through 2010. Following argument by the parties, the court made an oral ruling that SMUD would only be able to seek mitigation costs up to December 31, 2009 in this case, Docket No. 09-587C, but could pursue any costs incurred after that date in a separate action.

On April 20, 2011, SMUD filed a Motion For Leave To File Its Supplemental And Amended Complaint to allege a claim for mitigation costs for 2004 through 2010. On that same date, SMUD also served the Government with a Supplemental Expert Report and supporting documentation with its final damages claim through 2010. On April 21, 2011, the court convened a status conference to discuss SMUD’s April 20, 2011 Motion. On May 4, 2011, the Government filed a Response, arguing that SMUD’s damages in this case must be limited to those incurred prior to the date of its suit, *i.e.*, September 3, 2009. The Government, however, did not oppose SMUD’s April 20, 2011 Amended Complaint to the extent it alleged mitigation costs from January 1, 2004, to December 31, 2009.

On May 9, 2011, the court convened a second status conference to discuss SMUD’s April 20, 2011 Motion For Leave To File Its Supplemental And Amended Complaint.

On May 17, 2011, the court issued a Memorandum Opinion and Order Regarding SMUD’s Motion For Leave To File A Supplemental And Amended Complaint, determining that

allowing SMUD “to include 2010 damages in its claim at this juncture would require the Government to conduct significant extra discovery and potentially delay the evidentiary hearing on damages set for October 24-28, 2011.” *See Sacramento Mun. Util. Dist. v. United States*, 98 Fed. Cl. 495, 499 (2011). In addition, SMUD did not establish how it would be prejudiced, since SMUD could bring a future action to seek costs incurred in and after 2010. *Id.* For those reasons, SMUD’s April 20, 2011 Motion For Leave was denied-in-part and granted-in-part to allow SMUD to amend the September 4, 2009 Complaint to allege a claim for mitigation costs incurred through December 31, 2009. *Id.*

On June 10, 2011, SMUD filed a Motion To Strike The Government’s Unavoidable Delay Defense Or For Judgment On The Pleadings or to rule, as a matter of law, that the Government’s November 3, 2009 Answer And First Affirmative Defense was deficient. On July 8, 2011, the parties filed a Joint Motion And Stipulation, in which SMUD withdrew its June 10, 2011 Motion To Strike, based on the Government’s agreement that it would not pursue the unavoidable delays defense in this case. On July 11, 2011, the court issued an Order granting the parties’ July 8, 2011 Joint Motion And Stipulation.

On August 4, 2011, the Government filed three other motions *in limine*. The first motion sought to strike SMUD’s prior arguments in Civil Action Docket No. 98-488C regarding the ability to obtain an early SNF removal date, based on the assumption that utility exchanges would be available and on DOE’s policy favoring a priority for shutdown reactors. The second motion argued that SMUD is not entitled to recover any type or amount of interest related to claimed nominal damages. The third motion was to exclude the expert testimony of Michael W. Snyder, because he attempted to introduce a new opinion not disclosed when his initial expert report was filed.

On August 12, 2011, SMUD filed a Memorandum Of Contentions Of Fact And Law and an Exhibit List and Witness List. On August 25, 2011, SMUD also filed Responses to each of the Government’s August 4, 2011 motions *in limine*. On August 26, 2011, SMUD filed a Motion For Leave To File Designated Testimony, *i.e.*, for the admission of certain portions of the trial and deposition testimony, in other SNF cases, of Government witnesses: Mr. Robert Campbell; Ms. Christine Gelles; Mr. David Huizenga; Mr. Ronald Milner; and Mr. David Zabransky.

On September 6 and 8, 2011, the Government replied to SMUD’s August 25, 2011 responses to the Government’s three August 4, 2011 motions *in limine*. On September 12, 2011, the Government also filed a Response to SMUD’s August 26, 2011 Motion For Leave To File Designated Testimony.

On September 14, 2011, the Government filed a Memorandum Of Contentions Of Fact And Law, an Exhibit List, and a Witness List.

On September 20, 2011, SMUD filed a Reply in support of its August 26, 2011 Motion For Leave To File Designated Testimony. On September 26, 2011, SMUD also filed a Motion For Leave To File The Designated Deposition Testimony Of John Hoffman. That same day, SMUD also filed a Motion For Leave To File A Response To The Government’s Untimely

Request To Exclude Evidence Regarding A Possible Wet Pool Offset, which the court granted on September 29, 2011.

On September 30, 2011, the Government filed a Response to SMUD's September 26, 2011 Motion For Leave To File Designated Deposition Testimony Of John Hoffman.

On October 5, 2011, the court held a conference to discuss pretrial matters and pending motions.

On October 13, 2011, the Government filed a Response to SMUD's September 26, 2011 Motion regarding Mr. Hoffman's deposition. On that same date, the court issued an Order denying the Government's August 4, 2011 Motion *In Limine* to prohibit SMUD from introducing relevant evidence on entitlement to interest, because an appeal had been filed in *System Fuels, Inc. v. United States*, 92 Fed. Cl. 101, 109-114 (2010) (suggesting *en banc* reconsideration of the "no interest" rule). The court also granted-in-part and denied-in-part the Government's August 4, 2011 Motion *In Limine* to exclude the expert testimony of Michael Snyder, allowing him to testify as a potential rebuttal witness. The court also denied the Government's August 4, 2011 Motion *In Limine* to strike plaintiff's previously litigated and rejected arguments asserting exchanges and priority for a shutdown reactor, and allowed SMUD to introduce relevant evidence on this issue at trial. In addition, the court granted SMUD's August 26, 2011 Motion For Leave To File Designated Deposition And Trial Testimony and advised the parties that the record would remain open after trial to allow the Government to submit counter-designations and SMUD to submit any counter-counter-designations. The court also granted SMUD's September 26, 2011 Motion For Leave To File Designated Deposition Testimony Of John Hoffman and advised the parties that it would leave the record open for a reasonable amount of time after the trial to allow the Government to depose another witness on the subjects addressed by Mr. Hoffman. The court, however, deferred ruling on the Government's request to exclude evidence regarding a possible wet pool offset as discussed in its September 14, 2011 Memorandum Of Contentions Of Fact And Law.

From October 24, 2011 to October 27, 2011, the trial was held in Washington, D.C. on the mitigation costs to which SMUD was entitled for the period from January 1, 2004 to December 31, 2009.⁶

⁶ At the October 24-27, 2011 trial, the following witnesses testified on behalf of SMUD: Mr. Einar Ronningen, Superintendent of Rancho Seco Assets; Mr. Jason McAlister, in charge of budget planning and budget reporting for SMUD's Energy Supply Unit, which includes Rancho Seco; Mr. James J. Field, Engineering Supervisor at Rancho Seco from 2004 to 2009; Mr. Steve Redeker, Plant Manager at Rancho Seco from 1993 to 2008; and Mr. Robert Grubb, President and Chief Operating Officer of Transnuclear, Inc.

In addition, the court also admitted the written direct testimony of the following expert witnesses who testified on behalf of SMUD: Mr. Frank C. Graves, an economic consultant with the Brattle Group (PX 6350); Mr. Ivan F. Stuart, a nuclear industry consultant with I. Stuart & Co. (PX 6351); Ms. Eileen M. Supko, a nuclear industry consultant with Energy Resources International, Inc. (PX 6352); and Mr. Kenneth P. Metcalfe, C.P.A., C.V.A., an economic damages consultant with the Kenrich Group LLC (PX6353). The court also admitted the written

On December 16, 2011, the Government objected to SMUD's Exhibit List. On December 19, 2011, the Government filed a Notice Of Counter-Designations To SMUD's Designations Of Prior Deposition And Trial Testimony Of Department Of Energy Witnesses ("Gov't DOE Counter-Designations"), as well as Counter-Designations To SMUD's Designations Of Prior Deposition And Trial Testimony Previously Submitted In Plaintiff's First Spent Nuclear Fuel Case ("Gov't First Case Counter-Designations").

On January 3, 2012, SMUD filed a Response to the Government's December 16, 2011 Objections to SMUD's Exhibit List.

On January 9, 2012, the Government filed a Motion To Correct The Cumulative Index For The Trial Transcript. On January 11, 2012, SMUD filed a Motion To Correct The Cumulative Index and a Response to the Government's Motion To Correct.

On January 13, 2012, the Government filed a Reply to SMUD's January 3, 2012 Response to the Government Objections To Plaintiff's Trial Exhibits. That same day, the Government filed a Response to the SMUD's January 11, 2012 Motion To Correct.

On January 18, 2012, SMUD filed a Motion For Leave To File Additional Designations. And, on January 23, 2012, SMUD filed a Reply in support of its January 11, 2012 Motion To Correct.

On January 25, 2012, SMUD and the Government filed initial Post-Trial Briefs (respectively, "Pl. Br." and "Gov't Br.").

On February 6, 2012, the Government filed a Reply to Plaintiff's Objections To Defendant's Counter-Designations and a Response to SMUD's January 18, 2012 Motion For Leave To File Additional Designations. On February 16, 2012, SMUD filed a Reply in support of its January 18, 2012 Motion For Leave To File Additional Designations.

rebuttal testimony of Mr. Michael W. Snyder of MHF Services, formerly the Superintendent of Radioactive Waste Operations at Rancho Seco from 2001 to January 2009 (PX 6358). Each of these individuals also testified at the October 24-27, 2011 trial on cross-examination and re-direct.

Testifying as a fact witness on behalf of the Government was Ms. Christine Gelles, Director of the DOE's Office of Disposal Operations. In addition, the court admitted the written direct testimony of the following expert witnesses on behalf of the Government: Dr. Jonathan Neuberger, Ph.D., an economic consultant with Economists Inc. (DX 6242); Mr. William Jones, a nuclear industry consultant with ABZ, Inc., (DX 6243); Mr. Gregory Maret, a nuclear industry consultant with Sequoia Consulting Group (DX 6244); and Mr. Robert Peterson, M.B.A., an economic damages consultant with LitCon Group, LLC (DX 6245). Each of these individuals also testified at the October 24-27, 2011 trial on cross-examination and re-direct.

On February 17, 2012, SMUD filed a list of the assumptions relied on by Mr. Kenneth Metcalfe in his Written Direct Testimony. On February 24, 2012, the Government filed a list of assumptions relied on by Mr. Robert Peterson in his Written Direct Testimony.

On February 24, 2012, both SMUD and the Government filed Post-Trial Response Briefs (respectively, “Pl. Resp.” and “Gov’t Resp.”).

On April 2, 2012, the court issued an Order granting each party’s Motion To Correct The Cumulative Index and allowing the Government to file counter-designations to the designated deposition testimony filed by SMUD prior to the October 24-27, 2011 evidentiary hearing and for SMUD to file counter-counter-designations. Neither the Government nor SMUD filed any subsequent designations.

On December 4, 2012, SMUD filed a Notice Of Supplemental Authority notifying the court of the United States Court of Federal Claims’ opinion in *Portland General Electric Co. v. United States*, No. 04-09C, 2012 WL 6013274 (Fed. Cl. Nov. 30, 2012).

II. DISCUSSION.

A. Whether Plaintiff’s Spent Nuclear Fuel And High Level Waste Would Have Been Removed Prior To January 1, 2004, Utilizing The Standard Contract’s Exchange Provision.

1. The Plaintiff’s Argument.

SMUD argues that, in light of economic incentives, the Standard Contract⁷ exchange provision would have been utilized, so that all of SMUD’s SNF and HLW would have been removed prior to January 1, 2004 in the non-breach world. Pl. Br. at 38-40. SMUD supports this assertion with the testimony of DOE officials and Government experts that exchanges would have occurred. PX 6355 at 173 (June 6, 2002 Mr. Zabransky (Contracting Officer for the Standard Contract) Dep.), PX 6355 at 253 (July 14, 2004 Dr. Bartlett (former Director of DOE’s Waste Program) Direct); PX 6351 ¶¶ 34-35 (Stuart Written Direct) (testifying that the “lengthy schedule leading up to DOE performance . . . would have given utilities and DOE the time necessary to coordinate and get approval for exchanges,” and therefore “there is no reason to assume disapproval due to an ‘infeasible schedule’”); TR at 977 (Neuberger) (Government expert economic witness).

In addition, SMUD’s economic expert, Mr. Frank Graves, confirmed at the evidentiary hearing that using the Oldest Fuel First (“OFF”) sequence would impose \$1.6 billion of

⁷ The Standard Contract provided that utility-parties could exchange their place in line for DOE disposal at a set time prior to performance. See 10 C.F.R. § 961.11, Art. V.B.1 (Standard Contract) (setting process for approval of delivery commitment schedules 63 months prior to delivery). The Standard Contract, however, also provided that DOE had the discretion to prioritize the disposal of SNF and HLW from shut down nuclear reactors. See 10 C.F.R. § 961.11, Art. VI B., V D.

additional spent nuclear fuel storage costs on the nuclear utility industry that could be avoided, if the parties were able to utilize efficient exchanges. PX 6350 at 35. Since the utilities “are not actual competitors . . . historically [they] engage in mutually beneficial exchanges . . . of personnel, material, and even contract rights . . . not based on altruism, but collective self-interest.” Pl. Br. at 42 (citing TR at 170 (Ronningen); TR at 609-10, 614-15, 628-29 (Field)). Moreover, the nuclear industry had a history of cooperation, as evidenced by the uranium exchange market and the nuclear plant spare parts market. TR at 619-20, 628 (Field); *see also* PX 6352 ¶¶ 25-28 (Supko Written Direct); PX 6351 ¶¶ 25-26, 28 (Stuart Written Direct).

Since DOE would have benefitted from these exchanges, it is reasonable to assume DOE would be reasonable in approving them. *See, e.g.*, PX 29 at ZAB-001-0899 (Apr. 8, 1983 DOE Memorandum) (“[A]side from some complex record keeping, [an exchange provision] poses no great problem to [DOE], and consequently, [DOE] ha[s] accepted this suggestion.”); PX 6356 at 106 (Robert L. Morgan, the first Director of the SNF Program) (observing that DOE would approve exchanges, because it “intend[s] to be reasonable” and “if at all possible [DOE] would approve it”); *see also* PX 6356 at 145 (Nancy Slater-Thompson, Team Leader of the Regulatory Coordination Division of the DOE’s Office of Civilian Radioactive Waste Management) (“[I]t was [DOE’s] intention to accommodate, to the extent practicable, all reasonable requests to exchange”); PX 6355 at 254 (Dr. Bartlett) (testifying that he “anticipated that [DOE] would readily approve any proposed swaps”).

The record establishes that it was unlikely that the removal of SNF would have operated under an OFF schedule. PX 6355 at 252-53 (Dr. Bartlett) (“The system would, in my opinion, never have operated under an OFF concept. It would be extremely inefficient and inappropriate. Because many of the discharges had been small quantities of fuel over large intervals of time. And you could not operate your transport facilities and equipment efficiently if you followed the OFF principle.”); PX 6356 at 69 (Mr. Keith Klein, Manager of DOE’s Richland Operations Office) (stating that “a strict taking of the oldest fuel first from reactors would be very difficult to implement” and therefore DOE “needed to have some flexibility in the system to allow common sense to be used”); PX 6351 ¶¶ 8, 23, 32, 36-37 (Stuart Written Direct) (testifying that OFF acceptance is “inconsistent with the view of DOE officials who were in charge of running and developing the program in the real world and inconsistent with the historical practices of shipping and managing spent fuel” and explaining how using OFF acceptance would be less efficient and more burdensome both for the utilities and DOE); PX 6350 at 77 (Graves Written Direct) (“The [G]overnment’s suggestion that Rancho Seco . . . would have had its SNF removed according to its OFF allocation implies that the DOE would have developed a program that was entirely capable of addressing all the industry’s SNF removal needs after 2004 and most of them before, but that the program would have been implemented so poorly that it would not actually solve those storage problems.”); TR at 977-78 (Neuberger) (“[T]here were clear incentives for some utilities to accelerate their spent fuel acceptance relative to OFF.”); *see also* TR at 982-83 (Neuberger) (clarifying that he was not offering an opinion that it was more likely than not that SMUD would have held fuel until 2008).

In addition, as SMUD’s expert testified, “Rancho Seco’s fuel would have been removed by 2003, and in fact likely well before then, even under unduly pessimistic assumptions about the non-breach world.” PX 6350 at 5 (Graves Written Direct); *see also id.* (under Mr. Graves’s

“base case,” Rancho Seco’s SNF would have been removed in 1999). In addition, Mr. Graves testified that there were dozens of utilities with OFF allocation rights in excess of their needs in the early years of the SNF removal with the ability to exchange allocation rights without disrupting their fuel storage needs. PX 6350 at 33-36, 38-39. To verify this assumption, Mr. Graves conducted multiple sensitivity analyses to address: the updated discharge and capacity data; extreme variations in spent fuel storage costs; the exercise of market power by utilities with early acceptance allocations; transaction costs; barriers to trades; and the effect of greater-than-Class-C (“GTCC”) waste. PX 6350 at 44-77. Even a simple comparison of acceptance under the 1987 ACR would establish that within a few years after DOE’s removal of SNF commenced in 1998, DOE’s total acceptance capacity would have exceeded the total amount of “must move” fuel held by other utilities. PX 6350 at 18 (Graves Written Direct).⁸

Even if the court rejected the assertion that DOE would have removed Rancho Seco’s SNF prior to 2004, SMUD would have utilized the exchange provision to remove its SNF prior to 2008. Pl. Br. at 63-66. To obtain a fuel-out date in 2004, SMUD had to initiate and schedule two exchanges to remove 112.3 metric tons of uranium (“MTU”) of SNF when DOE would have accepted 3,000 MTU of SNF total for the year. Pl. Br. at 63-64; PX 6350 at 18-19 (Graves Written Direct); *see also* PX 119 (1987 ACR); PX 554 (1996 Annual Priority Ranking).⁹ Similarly in 2005, 2006, or 2007, SMUD only would need to arrange for one exchange to remove 82.1 MTU of SNF. Pl. Br. at 64-65. Moreover, during this time Plaintiff contends that there would have been more OFF allocation rights available than “must move” fuel needs. Pl. Br. at 63-65.

⁸ SMUD emphasized that Mr. Graves’s exchanges model was accepted by the United States Court of Federal Claims in every case involving a shutdown utility and that each of these decisions subsequently was affirmed by the United States Court of Appeals for the Federal Circuit. Pl. Br. at 36 (citing *Yankee Atomic Power Co. v. United States*, 94 Fed. Cl. 678, 701 (2010), *aff’d*, 679 F.3d 1354 (Fed. Cir. May 18, 2012); *Pac. Gas & Elec. Co. v. United States*, 92 Fed. Cl. 175, 184-85 (2010), *aff’d*, 668 F.3d 1346 (Fed. Cir. 2012); *Dairyland Power Coop. v. United States*, 90 Fed. Cl. 615, 627-36 (2009), *aff’d in part, vacated in part on other grounds*, 645 F.3d 1363 (Fed. Cir. 2011)).

The only decision in which the United States Court of Federal Claims rejected Mr. Graves’s exchange model did not involve a shutdown utility. *See Kan. Gas & Elec. Co. v. United States*, 95 Fed. Cl. 257 (2010), *aff’d in part, rev’d in part on other grounds*, 658 F.3d 1361 (Fed. Cir. 2012). Nevertheless, the *Kansas Gas & Electric Co.* court effectively reached the same result, determining that the utility would have managed its SNF in different ways to avoid additional storage charges. *Id.* at 294-95.

⁹ Under a 2005, 2006, or 2007 “fuel out date,” SMUD would need to make only one exchange, so it would want to facilitate an earlier acceptance. PX 6350 at 18-19 (Graves Written Direct). Moreover, even if SMUD’s fuel out date were 2008, SMUD’s SNF would have been removed at the beginning of the year, because “SMUD would have been at the front of the line for acceptance in 2008 based on [OFF], and both DOE and SMUD would have had every incentive to achieve final acceptance early in the year.” Pl. Br. at 65. In addition, if SMUD’s fuel out date were 2008, “SMUD would have had an opportunity and incentive to sell their allocations from 2000 to 2005 for significant value.” Pl. Resp. at 9 n.2 (citing TR 998-99 (Neuberger)).

Although the Government criticized Mr. Graves's assumptions, it "offers not a shred of evidence that SMUD would have been prevented from exchanging its single 2008 allocation for an earlier one." Pl. Resp. at 5. The Government also did not present an alternative scenario, take a position on what the proper inputs should be, or develop its own model of the non-breach world. Pl. Resp. at 29-31 (citing TR at 978-83, 992-93, 1008, 1017, 1029, 1040-44, 1048 (Dr. Neuberger)). Therefore, SMUD concludes that the Government's proposed OFF schedule and a 2008 fuel out date were not "a plausible view of the non-breach world for SMUD[.]" Pl. Br. at 49-50; *see also* Pl. Resp. at 4.

SMUD contends that, even if the court accepts SMUD's exchange model, it should not offset any related costs, since those costs would be less than SMUD's wet pool operating costs from 1999-2004. Pl. Br. at 50; Pl. Resp. at 28-32. In other words, offsetting SMUD's mitigation costs by SMUD's expedited exchange costs would place SMUD in a worse economic position than if the Government had performed, contrary to the law of expectation damages. Pl. Resp. at 28 (citing RESTATEMENT (SECOND) OF CONTRACTS § 347 cmt. a (1979)). Applying standard economic principles, Mr. Graves estimated that the exchange costs would be \$8.4 million in his base case. PX 6350 at 5-6 (Graves Written Direct). This is less than the approximately \$20 million in wet pool operating costs incurred in the breach world that SMUD would not have incurred in the non-breach world. Pl. Br. at 50. Even if the court adopts the *Dairyland Power* approach and finds that SMUD's exchange costs would be half of the avoided wet pool costs, SMUD's mitigation costs should not be reduced, "because SMUD has already 'paid' for half the avoided costs." Pl. Resp. at 34.

2. The Government's Response.

The Government responds that the law of the case doctrine precludes SMUD from claiming that its SNF would have been removed earlier than under the OFF schedule. Gov't Br. at 13-16. In Civil Action Docket No. 98-488C, SMUD contended that it would have removed its SNF earlier than the OFF schedule by utilizing the exchange or priority for shutdown reactors provisions of the Standard Contract, but the court rejected this argument. *See SMUD III*, 70 Fed. Cl. at 375 (reasoning that accepting this argument would require the court to "speculate about whether SMUD would have been successful in trading SMUD's acceptance priority with another utility or convincing DOE to accept SMUD's SNF early."). SMUD did not appeal that ruling. Nevertheless, in this case, Civil Action Docket No. 09-587C, SMUD reintroduced the evidence rejected in Civil Action Docket No. 98-488C, and added Mr. Graves's opinions. Gov't Br. at 15-16. The Government insists that SMUD made a litigation decision not to proffer Mr. Graves's opinion in the first case, and should not be allowed to do so here, as it "violates the law of the case doctrine . . . and would prejudice the Government." Gov't Br. at 16.

In addition, SMUD's re-introduction of its exchange argument is barred by collateral estoppel. Gov't Br. at 16. Although the court has not entered final judgment in Docket No. 98-488, "the mandate rule bars re-litigation of these accelerated acceptance theories on remand in SMUD's first case, [and therefore] the Court should find that issue sufficiently 'final' for the collateral estoppel doctrine to apply." Gov't Br. at 16. Therefore, SMUD also is barred from introducing a new theory to support SMUD's assumption that DOE would accelerate removal of

SMUD's SNF, including: the priority for shutdown reactors; emergency deliveries; the "plus or minus 20 percent" provisions in the Standard Contract; and the transportation campaigns opinion proffered by SMUD's nuclear industry consultant. Gov't Br. at 15-17. Each of these arguments previously was raised by SMUD and rejected by the court. Therefore, they are barred either by the mandate rule; the law of the case; or collateral estoppel; or they are waived for failure to raise them in the first case. Gov't Br. at 17 (citing *SMUD III*, 70 Fed. Cl. at 336 n.1, 339). In fact, "other than generalized references . . . , SMUD failed to present any evidence or analysis as to how these provisions would effect, if at all, DOE's acceptance of SNF and HLW from SMUD in the [non-breach] world." Gov't Br. at 17.

The Government then turns to its assertion that SMUD failed to establish that its SNF would have been removed prior to 2008. Gov't Resp. at 41-50. The Standard Contract granted DOE "virtually unreviewable discretion" to approve any exchanges, and that discretion should "weigh heavily against any damages award based upon this provision of the Standard Contract." Gov't Resp. at 42 (citing *Hi-Shear Tech. Corp. v. United States*, 356 F.3d 1372, 1380 (Fed. Cir. 2004) (holding that a contractor cannot increase a damage award by claiming that the Government would have exercised an option to extend the contract)). In response, SMUD cites the potential efficiencies to be gained by utilizing exchanges, but these efficiencies have not been ascertained nor quantified by DOE. Gov't Resp. at 42-43; *see also* Gov't DOE Counter-Designations Att. A (Zabransky 10/19/09 TR at 711-12 (*Pac. Gas & Elec., Co. v. United States*, Dkt. No. 04-0074C) ("What is efficient for one party maybe [sic] inefficient for another. So it really determines – it depends upon the specifics of who is making the judgment as to whether something is efficient or not.")). Moreover, other nuclear utilities have testified that exchanges were not a viable option and would not have participated in an exchange market. Gov't DOE Counter-Designations, Att. A (Zabransky 8/12/09 TR at 592-99, 301-02) (*Yankee Atomic Elec. Co. v. United States*, Dkt. Nos. 98-126C, 98-154C, 98-474C) (asserting that Wisconsin Electric Power Co., one of sixteen named plaintiffs in that case, would not have utilized exchanges, until the DOE acceptance program established a five-to-ten-year track record).

In addition, the United States Court of Federal Claims' decision in *Dairyland Power* highlighted the significant deficiencies in utilizing exchanges. Gov't Resp. at 43-47. *Dairyland Power* concerned a shutdown reactor with only 38 MTU of SNF, where there was a strong incentive to engage in an exchange. *See Dairyland Power Coop.*, 90 Fed. Cl. at 622, 634. In contrast, Rancho Seco had 228.8 MTU of SNF. Gov't Resp. at 44. Moreover, the *Dairyland Power* court found that plaintiff's expert's model underestimated the costs of exchanges and determined that plaintiff's exchange costs in that case would consume half of its expected exchange savings. Gov't Resp. at 45-46 (citing *Dairyland Power Coop.*, 90 Fed. Cl. at 635-36). The trial court's award of half of costs was affirmed on appeal. *Dairyland Power Coop.*, 645 F.3d at 1371-73.

In this case, SMUD's hypothetical exchange scenario is also premised on unreliable expert testimony. Gov't Resp. at 47-50. First, Mr. Graves's spent nuclear fuel storage cost estimate was based on an insufficient and unreliable data sample. Gov't Resp. at 47 (citing DX 6242 ¶¶ 124-70 (Neuberger Written Direct) (highlighting Mr. Graves's use of generic costs, as opposed to actual costs; a limited data sample; and miscalculation of three amounts used as a proxy for wet pool cost estimates)). Second, the maximum pool capacity data relied on by Mr.

Graves were found to be unreliable in other SNF cases. *See Kan. Gas*, 95 Fed. Cl. at 290-91; *see also* DX 6242 ¶¶ 108-118 (Neuberger Written Direct) (stating that Mr. Graves’s justifications of his pool storage capacity data were incomplete and did not fully measure the impact of his errors). Third, Mr. Graves’s model did not account for the fact that a potential seller of acceptance allocations would attempt to extract a high premium from SMUD for an exchange, in light of SMUD’s willingness to pay. Gov’t Resp. at 48-49. As such, Mr. Graves’s model significantly underestimated exchange costs. DX 6242 ¶¶ 171-74 (Neuberger Written Direct). Finally, Mr. Graves’s model relied on other speculative assumptions, *e.g.*, there is no evidence that: any nuclear utility contemplated moving back in the acceptance queue; there would have been 100% participation in an exchange market; uncertainty and risk aversion was considered; DOE would have approved all of the hypothetical exchanges; nor that perfect competition and trading conditions would be present. Gov’t Resp. at 49-40 (citing DX 6242 ¶¶ 44, 57-79, 80-87); *see also Kan. Gas*, 95 Fed. Cl. at 289-94 (determining that Mr. Graves’s exchange model was unreliable for similar reasons). In addition, Mr. Graves’s sensitivity analyses examined only the effect of individual changes, not cumulative effects. Gov’t Resp. at 50 n.17 (citing DX 6242 ¶¶ 31, 195-96).

3. The Plaintiff’s Reply.

SMUD replies that, as a matter of law, the court is not barred from determining what would have happened in the non-breach world during 2004 to 2009, as to a “fuel out” date. Pl. Br. at 30 (citing *SMUD VI*, 91 Fed. Cl. at 18-19 (holding that the court was not required to address the savings that SMUD realized from 2004 to 2008, but would do so in this case)). For this reason, the court preserved all issues regarding the period 2004 to 2009 for subsequent adjudication. *See SMUD VI*, 91 Fed. Cl. at 19 (“SMUD has requested an unspecified amount of damages ‘from January 1, 2004 forward’ in a separate proceeding. Accordingly the court has decided it is proper to account for any 2004-2008 SNF wet pool savings offset in that proceeding.” (citation omitted)). Although the court awarded the Government an offset for avoided wet pool savings, that ruling applied only to the period through December 31, 2003. Pl. Br. at 31. Since SMUD “chose to live with this 2003 wet pool deduction, [it] cannot be collaterally estopped from challenging the [G]overnment’s claim to an offset for damage periods that were not at issue.” Pl. Br. at 32; *see also* Pl. Resp. at 13 (citing *Charter Fed. Sav. Bank v. United States*, 87 Fed. App’x 175, 178 (Fed. Cir. 2004) (reversing the trial court’s determination that collateral estoppel applied, because any ambiguity should be resolved in favor of the party against whom preclusion is asserted)).

In *SMUD III* and *SMUD VI*, the court “did not determine SMUD’s fuel out date . . . , did not determine whether SMUD could have exchanged or advanced its 2004, 2005, or 2008 allocations, and did not determine whether the [G]overnment was entitled to any offset for 2004 forward,” because SMUD filed this case for mitigation costs from 2004 forward. Pl. Br. at 33-34. Therefore, no final judgment was entered in Civil Action Docket No. 98-488C, after the court decided to ascertain the fuel out date and any wet pool savings offsets in this case. Pl. Br. at 34. Moreover, applying collateral estoppel to this case would be improper, where there has been a subsequent change in applicable law altering the framework for evaluating Mr. Graves’s exchanges model. *See Pac. Gas & Elec. Co. v. United States*, 536 F.3d 1282, 1292 (Fed. Cir. 2008) (holding that the 1987 ACR established the proper acceptance rate); *see also Dairyland*

Power Coop., 645 F.3d at 1369-71 (affirming the trial court’s award of damages based on Mr. Graves’s exchanges model); *Bingaman v. Dep’t of Treasury*, 127 F.3d 1431, 1437 (Fed. Cir. 1997) (holding that “a significant change in the ‘legal atmosphere’ . . . can justify a later court’s refusal to give collateral estoppel effect to an earlier decision”). Therefore, “[t]o the extent this [c]ourt did not feel the law permitted such a finding in 2005, particularly because of the absence of an acceptance rate, there have been multiple decisions since this [c]ourt’s 2006 decision making clear that the law supports such a finding today.” Pl. Resp. at 11.

Moreover, neither the law of the case nor the mandate rule is applicable in this case, “because these doctrines serve to limit a party from relitigating issues *within the same case*.” Pl. Resp. at 12 (citing *Jamesbury Corp. v. Litton Indus. Prods., Inc.*, 839 F.2d 1544, 1550 (Fed. Cir. 1988) (stating that the law of the case doctrine “prevent[s] the relitigation of issues that have been decided and . . . ensure[s] that trial courts follow the decisions of appellate courts . . . on a question made previously during the case”), *overruled on other grounds by A.C. Aukerman Co. v. R.L. Chaides Const. Co.*, 960 F.2d 1020 (Fed. Cir. 1992). Likewise, the mandate rule governs only the issues that a trial court considers on remand. Pl. Resp. at 12. Docket No. 09-587C, however, is a new case, not a remand proceeding, and the appellate court has not directed the court to establish a “fuel out” date. Pl. Resp. at 12.¹⁰

4. The Court’s Resolution.

In adjudicating the claims alleged in Civil Action Docket No. 98-488C, the court previously rejected SMUD’s argument that “it might have been able to convince another utility in the queue to switch places to enable SMUD’s SNF to be removed in 2003.” *SMUD III*, 70 Fed. Cl. at 375. The court reasoned: “To accept SMUD’s position, the court would need to speculate about whether SMUD would have been successful in trading SMUD’s acceptance priority with another utility or convincing DOE to accept SMUD’s SNF early.” *Id.* SMUD did not appeal this ruling. In addition, the court “determined that the \$4,196,360.00 SMUD saved by placing SNF into dry storage and decommissioning the wet pool should be offset.” *Id.* (citing *Bluebonnet Sav. Bank, F.S.B. v. United States*, 339 F.3d 1341, 1345 (Fed. Cir. 2003) (“To derive the proper amount for the damages award, the costs resulting from the breach must be reduced by the costs, if any, that the plaintiffs would have experienced absent a breach.”)).

On August 7, 2008, the United States Court of Appeals for the Federal Circuit affirmed *SMUD III* in-part, reversed-in-part, and remanded the case with instructions to apply the 1987 ACR and reevaluate certain of the mitigation costs that SMUD claimed. *See SMUD V*, 293 F. App’x at 771. On remand, the Government argued that the court should apply the \$4,196,360 offset identified in *SMUD III* for the wet pool savings realized from 2004 to 2008. *See SMUD VI*, 91 Fed. Cl. at 18. The court denied this request, in part because the scope of the mandate was

¹⁰ In a December 4, 2012 Notice of Supplemental Authority, SMUD argued that a recent decision of the United States Court of Federal Claims, *Portland General Electric Co v. United States*, 2002 WL 6013274, at *16-17, *23, supports SMUD’s position that an exchange-market would have developed in the “but for” world, allowing for an early “fuel-out” date. That case, however, is neither binding precedent nor relevant to the court’s evaluation of legal issues of preclusion relevant to this case.

limited to SMUD's mitigation costs through December 31, 2003 and no evidence was proffered in the trial of Docket No. 98-488C as to any additional wet pool savings realized during 2004 to 2008. *Id.* at 18-19. Instead, the court decided that it would account for any wet pool savings offset due the Government in this case, Docket No. 09-587C. *Id.* at 19.

A threshold issue presented in this case is the effect of the law of the case and the collateral estoppel doctrines on the issues adjudicated in Civil Action No. 98-488C. As to the law of the case doctrine, the United States Court of Appeals for the Federal Circuit has held that this doctrine "requires a court to follow the decision on a question made previously *during the case.*" See *Jamesbury Corp.*, 839 F.2d at 1550 (emphasis added); see also *id.* ("The law of the case is a judicially created doctrine, the purposes of which are to prevent the relitigation of issues that have been decided and to ensure that trial courts follow the decisions of appellate courts."); *Suel v. Sec'y of Health and Human Servs.*, 192 F.3d 981, 985 (Fed. Cir. 1999) ("Under law of the case . . . a court will generally refuse to reopen or reconsider what has already been decided *at an earlier stage of the litigation.*") (emphasis added). Because the law of the case doctrine applies only to issues decided in a case, it does not necessarily apply in the trial court's consideration of the preclusive effect of the prior court's findings in a separate, although related, case.

In contrast, issue preclusion applies if the following conditions are established:

(1) the issue is identical to one decided in the first action; (2) the issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) the plaintiff had a full and fair opportunity to litigate the issue in the first action.

Laguna Hermosa Corp. v. United States, 671 F.3d 1284, 1288 (Fed. Cir. 2012) (quoting *In re Freeman*, 30 F.3d 1459, 1465 (Fed. Cir. 1994)); see also *Bingaman*, 127 F.3d at 1436-37 ("The principle of collateral estoppel dictates that an issue that is fully and fairly litigated, is determined by a final judgment, and is essential to that judgment, is conclusive in a subsequent action between the same parties.").

In this case, a final judgment did not issue in Docket No. 98-488C. For purposes of issue preclusion, however, the United States Court of Appeals for the Federal Circuit has held that "it is not necessary for [prior rulings] to be final orders for purposes of appeal." *Dana v. E.S. Originals, Inc.*, 342 F.3d 1320, 1323 (Fed. Cir. 2003); see also *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1135 (Fed. Cir. 1985) (same). Instead, a "final judgment includes any prior adjudication of an issue in another action that is determined to be sufficiently firm to be accorded preclusive effect." *Dana*, 342 F.3d at 1323 (quoting RESTATEMENT (SECOND) OF JUDGMENTS § 13 (1982)). Therefore, finality is to be determined, based on "whether the prior decision was 'adequately deliberated and firm' or 'avowedly tentative,' and whether the parties were fully heard in the prior proceeding." *Dana*, 342 F.3d at 1323 (quoting RESTATEMENT (SECOND) OF JUDGMENTS § 13, cmt. g (1982)).

Applying this precedent, the court has determined in this case that the issue of whether SMUD would have been able to utilize the exchange provision has been adjudicated following a

trial on the merits. See *SMUD III*, 70 Fed. Cl. at 374-75. The court's ruling therein, rejecting SMUD's exchanges argument on the grounds that it was speculative, was not appealed. Although the case was remanded for the court to apply the 1987 ACR acceptance rate, the exchange provision ruling was not subject to the remand. See *SMUD V*, 293 F. App'x at 771. Moreover, on remand, the court held an evidentiary hearing, during which SMUD did not seek reconsideration of the court's prior ruling on exchanges. In SMUD's words, it "chose to live with this 2003 wet pool deduction." Pl. Br. at 32. In *SMUD VI*, the court issued a final order on remand, but "stay[ed] . . . execution of this judgment" for the purpose of allowing for a possible additional offset against SMUD's recovery, based on the damages determination in the present case. See *SMUD VI*, 91 Fed. Cl. at 18-19. The fact that SMUD has not been afforded an opportunity to appeal *SMUD VI*, however, does not bar issue preclusion. See RESTATEMENT (SECOND) OF JUDGMENTS § 13, cmt. f (1982) (stating that "[t]he better view is that a judgment otherwise final remains so despite the taking of an appeal[,] unless what is called an appeal actually consists of a trial de novo," *i.e.*, that simply because there has not been a final determination on appeal does not mean that a judgment should not be considered final for preclusive purposes). Of course, SMUD could have appealed the court's exchange ruling in *SMUD III*. SMUD did not do so, nor did it challenge that ruling during the remand proceedings. As such, the court's determination as to finality in this case does not contradict the "require[ment] that the party against whom the estoppel is asserted have had the right, even if not exercised, to challenge on appeal the correctness of the earlier decision." *Interconnect Planning*, 774 F.2d at 1135. In *Interconnect Planning*, an initial decision on a motion for partial summary judgment was entered, although the non-prevailing party's ability to appeal was uncertain. *Id.* In such circumstances, the United States Court of Appeals for the Federal Circuit has stated that it did not intend "to penalize a party for declining to try to take a piecemeal appeal," particularly where the appeal "would have been a meaningless exercise," in light of a then pending application for a patent reissuance. *Id.* at 1136; *see also Vardon Golf Co., Inc. v. Karsten Mfg. Corp.*, 294 F.3d 1330, 1333-35 (Fed. Cir. 2002) (same).

Therefore, the fact that SMUD did not appeal the court's remand decision in *SMUD VI* does not bar application of the doctrine of issue preclusion to an issue not subject to nor considered on remand, particularly if other elements of the issue preclusion test have been met. SMUD's resurrected exchange argument is identical to that decided in *SMUD III*, *i.e.*, whether SMUD could have used exchanges to have its SNF removed earlier than OFF allocation. See *SMUD III*, 70 Fed. Cl. at 375. Although SMUD argues that the issues in the two cases are not identical, because Civil Action Docket No. 98-488C dealt with the Government's failure to remove SNF prior to 2003, both Civil Action Docket No. 98-488C and this case, Civil Action Docket No. 09-587C, concern SMUD's assertion that it would have used exchanges to accomplish an earlier fuel out date, albeit for different years in each of the two cases. In other words, SMUD shifts its claimed fuel out date, but does not change its argument as to whether SMUD could or would have used these exchanges. As such, there are no significant changed circumstances that would affect SMUD's use of exchanges from 1998 to 2003 during the period from 2004 to 2009. See *Arkla, Inc. v. United States*, 37 F.3d 621, 625 (Fed. Cir. 1994) ("Absent significant changes in controlling facts or legal principles since [the initial case], or other special circumstances, the [prior court's] resolution of the[] issue[] is conclusive here."); *see also* RESTATEMENT (SECOND) OF JUDGMENTS § 27 cmt. c ("[I]n the absence of a showing of changed

circumstances, a determination that, for example, a person was disabled . . . in one year will be conclusive with respect to the next as well.”).

In this case, SMUD’s argument emphasizes that there is “a substantial overlap between the evidence or argument to be advanced.” See RESTATEMENT (SECOND) JUDGMENTS § 27 cmt. c. Compare Pl. Br. at 38-49, *Sacramento Mun. Util. Dist. v. United States*, No. 09-587 (Fed. Cl.) (discussing why the exchange provision was added to the Standard Contract, citing the testimony of DOE officials that exchanges would have occurred because of efficiency gains, historical evidence on nuclear utilities’ cooperative customs and practices, and that DOE would have been reasonable in approving exchanges), with Pl. Resp. at 58-61, *Sacramento Mun. Util. Dist. v. United States*, No. 98-488C (Fed. Cl.) (same). The additional proffer of Mr. Graves’s exchanges model also highlighted the identity of these issues. Under Mr. Graves’s “base case” model, SMUD’s SNF would be removed from Rancho Seco by 1999 and, under any of his “sensitivity analyses,” SMUD’s SNF would be removed prior to 2003. PX 6350 at 5 (Graves Written Direct). Therefore, the evidence proffered in this case was available to SMUD in its round one case, as well.

In addition, the “essential to final judgment” requirement is met where a finding is “necessary to the judgment rendered in the previous action.” *In re Freeman*, 30 F.3d at 1466. The court’s prior ruling that SMUD failed to establish that it would be able to utilize exchanges to remove SNF prior to 2003 was a necessary predicate to the court’s determination in Docket No. 98-488C that the Government was entitled to offset SMUD’s mitigation costs by \$4.2 million for the wet pool savings costs that SMUD achieved. See *SMUD III*, 70 Fed. Cl. at 375. The “actually litigated” requirement also is met, because “the parties to the original action [Civil Case Docket No. 98-488C] disputed the issue [of exchanges] and the trier of fact decided it.” *In re Freeman*, 30 F.3d at 1466. SMUD was afforded a full and fair opportunity to litigate the exchange issue in Docket No. 98-488C. In this case, SMUD presented evidence at trial and argued in post-trial briefing that it would have used the exchange provision prior to the court’s decision in *SMUD III*. SMUD, however, failed to appeal the court’s ruling in *SMUD III* or seek reconsideration on remand. See *Pac. Gas & Elec. Co.*, 668 F.3d at 1354 (“Absent contrary instructions, a remand for reconsideration leaves the precise manner of reconsideration—whether on the existing record or with additional testimony or other evidence—to the sound discretion of the trial court. Because this court instructed the trial court to undertake a recalculation of damages consistent with the 1987 ACR, the trial court enjoyed broad discretion to allow the testimony of [plaintiff’s] expert on the exchanges provision of the Standard Contract.” (internal quotation marks and citations omitted)). Counsel for other utilities did not make this mistake.¹¹

¹¹ For example, in *Pacific Gas & Electric*, the United States Court of Federal Claims initially found that the evidence did not support plaintiff’s exchange theory, and excluded Mr. Graves’s testimony as “too speculative to be helpful to the court[.]” *Pac. Gas & Elec. Co. v. United States*, 73 Fed. Cl. 333, 413, 436 (2006); see also *Pac. Gas & Elec.*, 536 F.3d at 1292 (affirming the exclusion of Mr. Graves’s testimony). On remand, however, the court was instructed to reconsider Mr. Graves’s testimony in light of the 1987 ACR acceptance rate and determine whether it “provide[d] a reasonable description” of the non-breach world. See *Pac. Gas & Elec. Co.*, 92 Fed. Cl. at 184. Subsequently, that court found that the evidence adduced

In another case, the United States Court of Federal Claims discounted Mr. Graves's testimony regarding "the impact of the factors shown by [the Government] to retard market development." *Yankee Atomic Elec. Co. v. United States*, 73 Fed. Cl. 249, 306 (2006). But, after Mr. Graves testified at the remand trial, the court determined that the use of the 1987 ACR acceptance rate "minimize[d] the court's previous concerns related to market uncertainty that prevented the full acceptance of Mr. Graves's initial opinion." *Yankee Atomic Power Co.*, 94 Fed. Cl. at 691. Again, in that case, the trial court determined that the plaintiff would have been able to remove its SNF earlier than under the OFF allocations by utilizing the exchange provision. *Id.* at 693.

In this case, however, SMUD did not seek reconsideration nor move for leave to introduce additional evidence of exchanges on remand, despite the fact that the court's finding that the exchange argument was speculative rested in part on the court's observation that "the evidence presented on the acceptance rate under the terms of the Standard Contract [was] highly speculative," *SMUD III*, 70 Fed. Cl. at 375 n.40, an observation that would have brought SMUD's exchanges argument squarely within the scope of matters open for reconsideration on remand.¹² As SMUD admitted, however, it made a decision to "live with" the court's prior ruling on exchanges. Pl. Br. at 32.

Nevertheless, SMUD argues that the principles of issue preclusion should not apply, because there has been a "change in the legal atmosphere," as a result of the United States Court of Appeals for the Federal Circuit's decisions approving the use of an exchanges model in *Yankee Atomic*, *Dairyland Power*, and *Pacific Gas & Electric*. The court is mindful that our appellate court has indicated that "a significant change in the 'legal atmosphere' – whether in the form of new legislation, a new court decision, or even a new administrative ruling – can justify a later court's refusal to give collateral estoppel effect to an earlier decision." *Bingaman*, 127 F.3d at 1438; *see also Morgan v. Dep't. of Energy*, 424 F.3d 1271, 1276 (Fed. Cir. 2005) ("*Bingaman* establishes that where a party seeks to establish the legal consequences of new facts that are identical to facts previously adjudicated, collateral estoppel will not bar relitigation of the legal consequences of those facts if an intervening change in law has altered the applicable legal test.").

on remand supported plaintiff's position that it would have used the exchange provision in the Standard Contract to advance one year in the acceptance queue. *Id.*

¹² Moreover, at the remand evidentiary hearing, the court made it clear that the Federal Circuit's mandate reopened the issue of causation. 7/27/09 Post-Remand Hearing TR at 72, *Sacramento Mun. Util. Dist. v. United States*, No. 98-488 (the court agreeing that the Government's argument that it was entitled to seek an offset for 2004-2008 wet pool cost savings was not an argument that exceeded the appellate court's mandate). In addition, SMUD has acknowledged the court's determination regarding exchanges was based in part on the absence of an acceptance rate. Pl. Br. at 34 ("Since this [c]ourt imposed a wet pool offset for 2003, in large part because of the absence of an acceptance rate, the Federal Circuit has established the acceptance rate[.]").

The SNF cases cited, however, affirmed the trial court's factual findings. *See Dairyland Power Coop.*, 645 F.3d at 1370 (“This court reviews the factual findings of the Court of Federal Claims only for clear error. . . . We find no error in [the trial court’s conclusion regarding exchanges], as it appears to have been grounded in proper weighing of the evidence.”); *see also Yankee Atomic Elec. Co.*, 679 F.3d at 1359 (“Just as this court found in *Dairyland*, the Government did not identify any record evidence to support a finding that the trial court committed clear error in adopting an exchanges model.”); *Pac. Gas & Elec.*, 668 F.3d at 1355 (“The record supports the trial court’s award of damages [based on application of the exchanges model] and this court discerns no error in the trial court’s determination concerning the entitlement and offset applied.”). None of these cases concerned a change in the legal standard applicable to the exchanges model, but they evaluated evidence of exchanges submitted on remand according to existing evidentiary and legal standards. *See Kan. Gas & Elec. Co. v. United States*, 685 F.3d 1361 (Fed. Cir. 2012) (the trial court’s rejection of Mr. Graves’s exchange model was not challenged on appeal).

To be sure, the appellate court’s directive to use the 1987 ACR acceptance rate to determine causation represented a “change in the legal atmosphere,” but the court does not consider that directive to afford a litigant the authority to relitigate settled issues. *See SMUD V*, 293 Fed. App’x at 771 (vacating and remanding with instructions that the court apply the 1987 ACR acceptance rate).

SMUD is also correct that it is not estopped from challenging any wet pool offset sought by DOE from 2004 through 2008, but that does not afford SMUD an opportunity to also relitigate arguments previously raised and adjudicated in Docket No. 98-488C in *SMUD II*. Of course, in that first case no fuel out date for SMUD was established. In the absence of SMUD’s prevailing on its exchanges argument, however, the parties agree that SMUD’s final fuel out date is 2008 under the 1987 ACR-based OFF allocations. Pl. Br. at 53 tbl. 4 (SMUD Allocations Based On OFF Priority); Gov’t Br. at 12; *see also* PX 119 (1987 ACR); PX 554 (1996 Annual Priority Ranking).

Finally, the application of the collateral estoppel doctrine is particularly important given the ongoing nature of the damage claims in the SNF cases. To date, the Government has been in breach of the Standard Contract for fourteen years. Barring some other resolution, the United States Court of Federal Claims faces decades of determining ongoing damages in six-year intervals. *See Ind. Mich. Power Co.*, 422 F.3d at 1377 (“A plaintiff can recover only such damages as he or she has sustained, leaving prospective damages to a later suit in the event of further breaches.”). Therefore, these cases must be managed and adjudicated with finality. Otherwise, both trial and appellate courts will waste both time and resources – an outcome that is not efficient for the courts nor the parties. As such, the interests of justice require that the parties adhere to the time-tested rules of judicial repose.

For these reasons, the court has determined that SMUD is precluded from relitigating whether SNF would have been removed from Rancho Seco earlier than under the OFF schedule, by exchanges or otherwise.

B. Whether Plaintiff Would Have Stored Class B And C Waste Onsite In The Non-Breach World.

1. The Plaintiff's Argument.

SMUD also argues that it would not have stored Class B and C waste onsite after decommissioning was completed in 2008, because it decided to exit the nuclear industry. Pl. Br. at 51 (citing TR at 249 (Ronningen); TR at 751 (Redeker)). “DOE’s failure to perform and the fact that SMUD would be storing SNF onsite indefinitely was the dispositive factor in SMUD’s decision to keep the B and C waste onsite.” Pl. Resp. at 50 (citing TR at 127, 193 (Ronningen); TR at 657 (Redeker)). This is so because, “[a] key aspect of decommissioning the site in the non-breach world would have been shipping all of SMUD’s radioactive low level waste to a disposal facility for final disposal.” Pl. Br. at 17 (citing TR at 127-28, 182-83 (Ronningen); TR at 657 (Redeker)); *see also* DX 6034. Moreover, in the non-breach world, SMUD would have to maintain a nuclear license if it decided to store Class B and C waste onsite. TR at 249 (Ronningen); TR at 751 (Redeker). Of course, if the DOE had performed under the Standard Contract, SMUD could have disposed of this waste at the disposal facility in Barnwell, South Carolina, or elsewhere. TR at 199-200, 249 (Ronningen). The fact that Mr. Redeker and Mr. Ronningen recommended that the Class B and C waste be shipped to Barnwell in the actual breach world underscores this point. Pl. Resp. at 51 (citing TR at 128, 193-94, 199-200, 205-06, 210 (Ronningen)). Moreover, the potential for environmental liability¹³ would not have deterred SMUD from shipping waste offsite in the non-breach world, because that liability would exist wherever the Class B and C waste was disposed, including at Rancho Seco. TR at 210, 249 (Ronningen); TR at 751 (Redeker).

2. The Government's Response.

The Government responds that SMUD’s decision to store Class B and C waste onsite was not caused by DOE’s breach, but was a business decision. Gov’t Br. at 36, 41 (citing DX 6244 ¶¶ 23-27 (Maret Written Direct)); Gov’t Resp. at 25. Therefore, even in the non-breach world, SMUD would have kept Class B and C waste onsite. Gov’t Br. at 39. In the breach world, SMUD could have shipped this waste to the Barnwell disposal facility as many other utilities did during that time, but elected not to do so because of potential environmental liability. DX 6244 ¶ 23 (Maret Written Direct); DX 6033 (Barnwell Disposal: Rancho Seco Recommendation to Utilize Disposal Opportunity); TR at 201-10 (Ronningen) (discussing SMUD’s decision not to ship B and C waste to Barnwell in the breach world); TR at 737-38 (Redeker) (same). These same concerns would exist in the non-breach world and would have caused SMUD to reach the same business decision to store Class B and C waste onsite. Gov’t Resp. at 25.

¹³ Environmental liability refers to that incurred under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, *i.e.*, “[a]n Act to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites.” Pub. L. No. 96-510, 94 Stat. 2767 (1980) (codified as amended at 42 U.S.C. §§ 9601-9675 (2006)).

3. The Court's Resolution.

As Mr. Ronningen and Mr. Redeker testified, SMUD's primary goal after the decision to shut down Rancho Seco was to exit the nuclear industry entirely and as soon as possible. TR at 249 (Ronningen), 657 (Redeker). This could be accomplished only if SMUD shipped and stored its Class B and C waste offsite. The most likely off-site recipient in the non-breach world was the Barnwell facility in South Carolina. TR at 127 (Ronningen) ("We would have shipped [the Class B and C waste] for disposal at the Barnwell facility."); TR at 657 (Redeker) ("We would have shipped [the Class B and C waste] and disposed of it at Barnwell."). Although the Barnwell facility declined to accept "out-of-compact" shippers, as of June 30, 2008, since SMUD had Class B and C waste prior to that time, it would have been able to utilize Barnwell and would not have had Class B and C waste onsite as of 2008. TR at 199-200, 206 (Ronningen).

Moreover, the Government's argument was contradicted by Mr. Ronningen, who testified that the DOE's breach was the "primary reason" that SMUD decided to store and maintain B and C waste on-site. TR at 193 (Ronningen). In addition, both Mr. Ronningen and Mr. Redeker emphasized that decision was made because SMUD's SNF was already onsite and because storing B and C waste there entailed a small incremental cost. TR at 127 (Ronningen) (testifying that "the decision was made to utilize the staff that was necessary to be onsite for the fuel oversight, and have them oversee some low-level waste, as well"), 248 (Ronningen) ("[W]e saw the increment costs or management saw the incremental costs [of keeping low-level waste onsite] as being very slight."); TR at 657 (Redeker) ("[W]hen it was clear to us that the nuclear fuel was going to stay there for a long time, we balanced the risk of shipping [the B and C waste] to Barnwell as opposed to the incremental cost to store it on site given that the nuclear fuel would be there, and the incremental cost to store it on site was very low."). Moreover, in direct response to the concern about environmental liability, Mr. Ronningen testified that "[t]he liability is there for all the waste we've ever disposed of and the B and C waste when we finally dispose of it." TR at 249 (Ronningen); *see also* TR at 658 (Redeker) (stating that SMUD previously accepted the risk of disposing other radioactive materials offsite, because "[a]nytime you dispose of waste there is a risk, you eventually have to accept it"), 737-38 (Redeker) ("[W]e could potentially avoid that degree of risk . . . given that the nuclear fuel is already [at Rancho Seco].").

For these reasons, the court has determined that SMUD would have shipped its Class B and C waste off-site in the non-breach world prior to or during 2008.

C. Governing Precedent Regarding Damages In Spent Nuclear Fuel Cases.

"The remedy for breach of contract is damages sufficient to place the injured party in as good a position as it would have been had the breaching party fully performed." *Ind. Mich.*, 422 F.3d at 1373. Such damages "are recoverable where: (1) the damages were reasonably foreseeable by the breaching party at the time of contracting; (2) the breach is a substantial causal factor in the damages; and (3) the damages are shown with reasonable certainty." *Id.* In a suit for a partial breach, however, "a claimant may not recover . . . prospective damages for anticipated future non-performance resulting from the same partial breach." *Id.* at 1376. In

addition, a “non-breaching party should not be placed in a better position through the award of damages than if there had been no breach.” *Bluebonnet Sav. Bank, F.S.B. v. United States*, 339 F.3d 1341, 1345 (Fed. Cir. 2003).

To ascertain whether mitigation costs claimed by the nuclear utility-parties to the Standard Contract were incurred because of DOE’s partial breach of the Standard Contract, the court is required to make a “comparison between the breach and non-breach worlds[.]” *Yankee Atomic Elec. Co. v. United States*, 536 F.3d 1268, 1273 (Fed. Cir. 2008); *see also Energy Nw. v. United States*, 641 F.3d 1300, 1305 (Fed. Cir. 2011) (“It is only by comparing this hypothetical ‘but-for’ scenario with the parties’ actual conduct that a court can determine what costs were actually caused by the breach, as opposed to costs that would have been incurred anyway.”). To conduct this comparison, “[the Government] must move forward by pointing out the costs it believes the [nuclear-utility] plaintiff avoided[,] because of [DOE’s] breach[.]” *S. Nuclear Operating Co. v. United States*, 637 F.3d 1297, 1304 (Fed. Cir. 2011). But, “with respect to both claimed costs and avoided costs, [the nuclear utility-party to the Standard Contract] bear[s] the burden of persuasion.” *Id.* Therefore, “a plaintiff seeking damages must submit a hypothetical model establishing what its costs would have been in the absence of breach.” *Energy Nw.*, 641 F.3d at 1305; *see also S. Nuclear*, 637 F.3d at 1304 (“As we held in *Yankee Atomic*, ‘[b]ecause plaintiffs . . . are seeking expectancy damages, it is incumbent upon them to establish a plausible ‘but-for’ world.’”); *Energy Nw.*, 641 F.3d at 1308 (“[T]he burden of proving the non-breach world . . . lie[s] with [the plaintiff].”). But, a cost that would have been incurred in the non-breach world is not recoverable. *Energy Nw.*, 641 F.3d at 1307 (“If a cost would have been incurred even in the non-breach world, it is not recoverable.”). Likewise, a cost that would have been incurred in the non-breach world that has not been incurred in the breach world, *i.e.*, an avoided cost, is required to be offset against a plaintiff’s recovery. *See Carolina Power & Light Co. v. United States*, 573 F.3d 1271, 1277 (Fed. Cir. 2009). An offset, however, does not apply to costs that have merely been deferred. *Id.*

In addition, “[w]hile the amount of damages need not be ascertainable with absolute exactness or mathematical precision, recovery for speculative damages is precluded.” *Ind. Mich.*, 422 F.3d at 1373; *see also Locke v. United States*, 283 F.2d 521, 524 (Ct. Cl. 1960) (“Certainty is sufficient if the evidence adduced enables the court to make a fair and reasonable approximation of the damages.”). This is so, because “[t]he risk of uncertainty must fall on the defendant whose wrongful conduct caused the damages.” *Energy Capital Corp. v. United States*, 302 F.3d 1314, 1327 (Fed. Cir. 2002) (quoting *Mid-Am. Tablewares, Inc. v. Mogi Trading Co.*, 100 F.3d 1353, 1366 (7th Cir. 1996)).

D. The Mitigation Costs That Plaintiff Claims Were Incurred From January 1, 2004, To December 31, 2009, As A Result Of The Partial Breach Of The January 21, 1998 Standard Contract.

As a result of DOE's partial breach of the January 21, 1998 Standard Contract, SMUD seeks mitigation costs incurred from January 1, 2004 to December 31, 2009, as follows:

Type of Cost	Amount
ISFSI Dry Storage Operations and Maintenance	\$19,852,000
GTCC Waste Segmentation and Storage	\$3,928,000
NRC Fees	\$938,000
Miscellaneous Additional Costs ¹⁴	\$1,616,000
Total	\$26,334,000

Pl. Br. at 8 (citing PX 6353 ¶ 38, Table I (Metcalf Written Direct)).

1. Whether Plaintiff Is Entitled To The Cost Of Independent Spent Fuel Storage Installation Operating And Related Maintenance Expenses.

a. The Plaintiff's Argument.

SMUD argues that it is entitled to \$13,366,602¹⁵ for mitigation costs associated with operating and maintaining the Independent Spent Fuel Storage Installation from 2004 through 2009. Pl. Br. at 9. These costs include: "NRC-required security supporting the ISFSI, ISFSI technicians that provided 24/7 onsite oversight and required maintenance work, purchased materials and supplies supporting the ISFSI, SNF-related engineering support, and regulatory compliance administration." Pl. Br. at 9-10. SMUD emphasizes that this claim includes only maintenance and operations costs that are "directly and solely related to the ISFSI" and excludes costs that were "partially shared" or related to costs and activities that SMUD would have undertaken in the non-breach world. Pl. Br. at 10-12 (citing PX 6353 ¶¶ 54-55 (Metcalf Written Direct); PX 6265 at A3 Rev. (Metcalf's Damages/Cost of Debt Binder A); TR at 106-23 (Ronningen)).

¹⁴ These "miscellaneous additional costs" include: building a new wastewater treatment plant (\$546,000); modifications to the Interim Onsite Storage Building ("IOSB") (\$539,000); ongoing operation and maintenance costs at the IOSB (\$59,000); modifications to address certain drainage issues (\$10,000); an explosion analysis regarding the Cosumnes Power Plant (\$51,000); and increased American Nuclear Insurance ("ANI") insurance premiums from 2004 to 2008 (\$411,000). In addition, SMUD seeks to recover \$3,619,000 for the cost of capital.

¹⁵ This amount represents SMUD's total claimed ISFSI costs of \$19,852,000, minus its claimed costs for NEI dues (\$535,527), 2009 ANI insurance premiums (\$371,880), 2009 NEIL insurance premiums (\$92,342), and overhead costs (\$5,485,649), which are included in SMUD's ISFSI cost figure, but are discussed separately herein.

SMUD asserts that it has established these costs with sufficient certainty to “enable[] the court to make a fair and reasonable approximation of [SMUD’s] damages.” Pl. Br. at 27 (citing *Locke*, 283 F.2d at 524). As in *SMUD III*, the costs in this case were tracked via January 1, 2004, to December 31, 2009 work orders captured by SMUD’s SAP accounting system.¹⁶ TR at 98, 102, 106-07 (Ronningen); TR at 260-63, 269-71 (McAlister). In addition, Mr. Ronningen and Mr. Metcalfe testified that they reviewed the costs incurred from 2004 to 2009 to ensure accuracy. TR at 97-98, 100-01 (Ronningen); PX 6353 ¶¶ 39-44 (Metcalf Written Direct Testimony). SMUD produced other evidence, including: electronic detail from the accounting system; screen shots from the accounting system; routing sheets; accounting reports; outside contracts; purchase orders; invoices; and labor hour reports. PX 6353 ¶ 43 (Metcalf Written Direct Testimony); *see also* PX 6275 at KRGSMUDII-007497-7500; PX 6276; PX 6277; PX 6278; PX 6281; PX 6282; PX 6283. In addition, all of SMUD’s supporting invoices for third-party costs over \$3000 were confirmed by the Government’s expert. DX 6245 Att. 2-a (Peterson Written Direct).

b. The Government’s Response.

The Government responds that SMUD is not entitled to \$4,054,676 of the claimed third-party costs, because it did not provide the “necessary payment support documentation.” Gov’t Br. at 61 (citing DX 6245 ¶ 45 (Peterson Written Direct)). The court previously reviewed the same accounting system and determined that SMUD’s system was “designed to ensure transactions were timely recorded and accurately reported.” *SMUD III*, 70 Fed. Cl. at 366. But, this finding did not relieve SMUD of the obligation to establish claimed mitigation costs with reasonable certainty. In Docket No. 98-488C, the Government identified \$2.2 million in accounting errors in SMUD’s claim and, in this case, the Government identified an error in SMUD’s labor rate calculations resulting in an \$8067 error that SMUD subsequently removed from its claim. Gov’t Br. at 62. These errors demonstrate that simply relying on SMUD’s accounting system to establish damages to a reasonable certainty “is not acceptable.” Gov’t Br. at 62. For this reason, the Government requested payment support documentation, but was not provided with access to “hard copy payment support documentation or the portion of the SAP system containing the payment support documentation.” Gov’t Br. at 61 n.17. Despite the court’s prior indication that the Government should bear the expense of obtaining this documentation, SMUD had the burden of establishing, with reasonable certainty, the amount of its damages claim, yet it has not done so for the \$4,054,676 in third-party costs. Gov’t Br. at 61 (citing DX 6245 ¶ 45, Attach. 2a-1 (Peterson Written Direct)).

c. The Plaintiff’s Reply.

SMUD replies that the Government’s contention as to \$4,054,676 in third-party costs is unsupported, because the Government: does not “dispute that any specific costs were actually incurred;” does not “point to any reason for needing every cancelled check in order to establish that SMUD incurred such costs generally;” and does not “provide[] [any] case law in support of the need for cancelled checks and wire transfers.” Pl. Resp. at 69. As for the two errors cited,

¹⁶ SMUD utilizes an SAP accounting system for “tracking [its] costs,” “inputting budget plans,” and “run[ning] all of [its] reports to look at actual and plan data.” TR at 258 (McAlister).

neither is relevant to the Government's expert's assertion that cancelled checks for every outside invoice over a certain amount is required. In fact, SMUD's inadvertent \$2.2 million error in Docket No. 98-488C was removed during the discovery phase of *SMUD III*. Pl. Resp. at 70. Likewise, the \$8067 labor rate error in this case was removed, because it was a fraction of a percent of SMUD's total claim and thus "too small of an issue over which to argue[.]" Pl. Resp. at 71. "SMUD offered the [G]overnment the opportunity to review cancelled checks, but the [G]overnment decided to do nothing." Pl. Resp. at 71. Therefore, Mr. Metcalfe confirmed payment by gathering a sample of cancelled checks and wire transfers. PX 6353 ¶ 43 (Metcalfe Written Direct); PX 6276 at KRGSUDII-007668 to 007672, KRGSUDII-007675 to 007678, KRGSUDII-007680 to 007683.

Last, in SMUD's December 4, 2012 Notice Of Supplemental Authority, SMUD argues that *Portland General Electric* supports its assertion that it need not provide copies of cancelled checks or wire transfer receipts in order to prove its damages. *See Portland Gen. Elec. Co.*, 2012 WL 6013274 at *23 (finding cost reports and expert testimony regarding the plaintiff-utility's accounting system sufficient).

d. The Court's Resolution.

The court previously determined that "the Government, not SMUD, is responsible for operation and maintenance costs associated with storage of SNF, until DOE accepts the last of SMUD's SNF." *SMUD III*, 71 Fed. Cl. at 371. Therein, the court also determined that the costs recorded in SMUD's SAP accounting system were "established with reasonable certainty." *Id.* at 365-66. In this case, the Government challenges \$4,054,676 of SMUD's claimed ISFSI costs on the grounds that these third-party costs were not adequately supported. The Government, however, does not challenge any of these costs as unforeseeable nor contend that they were not incurred because of the Government's breach.

The evidence proffered by SMUD establishes that it recorded costs using the same SAP accounting system that the court credited as reliable in *SMUD III*. TR at 98, 102, 106-07 (Ronningen); TR at 260-63, 269-71 (McAlister). In addition, SMUD presented supporting evidence from the SAP accounting system, including: screen shots from the accounting system; routing sheets; accounting reports; outside contracts; purchase orders; invoices; and labor hour reports. PX 6353 ¶¶ 43 (Metcalfe Written Direct Testimony); *see also* PX 6275 at KRGSUDII-007497 to 007500; PX 6276; PX 6277; PX 6278; PX 6281; PX 6282; PX 6283. And, as the Government's expert acknowledged, SMUD provided detailed invoice support for third-party costs over \$3000. DX 6245 Att. 2-a (Peterson Written Direct).

The \$8067 error in this case was removed from SMUD's damages claim and does not undermine the reliability of SMUD's accounting system. Moreover, the Government has not specifically challenged any specific cost, other than broadly arguing that additional documentation is needed for all third-party costs. Nor has the Government advanced any new basis for challenging the reliability of the SAP accounting system that the court previously found reliable. Indeed, the Government had the opportunity to review SMUD's cancelled checks and did not do so. Nothing further is required to establish that SMUD incurred these costs with reasonable certainty. *See Locke*, 283 F.2d at 524 ("Certainty is sufficient if the evidence adduced

enables the court to make a fair and reasonable approximation of the damages.”); *see also Portland Gen. Elec. Co.*, 2012 WL 6013274 at *23; *Dominion Res., Inc. v. United States*, 84 Fed. Cl. 259, 284 (2008).

For these reasons, the court has determined that SMUD is entitled to \$13,366,602 in mitigation costs incurred as a result of SMUD’s ISFSI operations and maintenance costs.

2. Whether Plaintiff Is Entitled To The Cost Of Nuclear Energy Institute Fees.

SMUD paid annual membership dues to the Nuclear Energy Institute, which “provides a warehouse for sharing of knowledge, [and] provid[es] input for regulatory development.” TR at 114 (Ronningen).

a. The Plaintiff’s Argument.

SMUD argues that it is entitled to \$847,070 for membership in the Nuclear Energy Institute (“NEI”). Pl. Br. at 10. The goal of the NEI is to assist facilities like SMUD “safely and cost-effectively” to manage SNF storage, including sharing industry knowledge and best practices. Therefore, SMUD’s membership is required because of the presence of SNF on-site at Rancho Seco. TR at 114-15, 121, 243 (Ronningen). Furthermore, these mitigation costs are “reasonable under the circumstances.” *Home Sav. of Am., FSB v. United States*, 399 F.3d 1341, 1353 (Fed. Cir. 2005). SMUD adds that there is no requirement that a mitigation cost must be a regulatory or licensing requirement in order to be compensable. Pl. Resp. at 51 (citing *Chain Belt Co. v. United States*, 115 F. Supp. 701, 714 (Ct. Cl. 1953) (holding that a plaintiff “is entitled to recover the amount proved to have been spent as expenses incurred in a reasonable effort to avoid the harm which both parties had reason to foresee would be the probable result of defendant’s breach of the contract”)). Notably, the Government expert cited no evidence that SMUD would have maintained its membership in NEI, even if SMUD’s SNF had been removed to an offsite location.

b. The Government’s Response.

The Government responds that SMUD is not entitled to recover any costs related to NEI membership dues for the years 2004 through 2008, because that expense is related solely to SNF storage and SNF would have remained onsite until 2008 under the OFF schedule in the non-breach world. Gov’t Br. at 45 (citing TR at 238-40 (Ronningen)); DX 6244 ¶¶ 30-32 (Maret Written Direct). In addition, NEI membership is not a regulatory or licensing requirement, and therefore, “is not a cost or activity that DOE’s delay in SNF acceptance caused SMUD to incur to ‘mitigate’ the breach.” Gov’t Br. at 45 (citing TR at 238-41 (Ronningen); DX 6244 ¶ 30 (Maret Written Direct)); *see also* Gov’t Resp. at 30 (“SMUD identified no requirement that it belong to NEI, and we are aware of no case law that allows for recovery of unnecessary costs that a plaintiff voluntarily decides it wants to incur.”). In fact, SMUD’s NEI dues are not solely related to SNF storage, but are also related to nuclear decommissioning and the disposal of Class B and C radioactive waste. TR at 240 (Ronningen); TR at 653-54 (Redeker); DX 6244 ¶ 32 (Maret Written Direct). Moreover, “[t]he record is silent as to any details of the services or any

benefits provided to SMUD by NEI that ‘mitigated’ DOE’s delay in SNF acceptance.’” Gov’t Br. at 46.

c. The Court’s Resolution.

Because the court has herein determined that SMUD’s SNF would not have been removed in the non-breach world prior to 2008, SMUD is not entitled to recover its NEI fees for the years 2004 through 2008. *See also SMUD VI*, 91 Fed. Cl. at 12-14; TR at 114-15, 121, 241, 249 (Ronningen), 657, 751 (Redeker). In addition, in the non-breach world, SMUD’s decommissioning would have been completed (as it was in the actual world), and SMUD’s class B and C waste would have been removed offsite prior to or during 2008. Accordingly, the court has determined that SMUD is not entitled to NEI fees claimed from 2005 through 2008, but that SMUD is entitled to \$311,543 in mitigation costs for 2009 and 2010 NEI fees. Those fees were included in the \$13,366,602 in ISFSI mitigation costs, discussed above.

3. Whether Plaintiff Is Entitled To The Cost Of Insurance Premiums.

SMUD maintained several insurance policies with ANI, including a facility form policy, a master worker policy, and a suppliers and transporters policy. PX 6354 at 23-25 (Hoffman Dep. Test.); TR at 132-43 (Ronningen). SMUD also maintained a nuclear property insurance policy with Nuclear Electric Insurance Limited (“NEIL”) that covered damages to real and personal property at Rancho Seco. TR at 132-33 (Ronningen).

a. The Plaintiff’s Argument.

SMUD argues that it is entitled to \$410,714 for increased premiums paid for a liability policy with ANI for the period from 2004 to 2008. Pl. Br. at 12-13, 67 (Table 5). In the non-breach world, these premiums would have been reduced, because SMUD would not have stored SNF onsite, although SMUD concedes that it would have maintained some ANI insurance coverage for on-going decommissioning activities at Rancho Seco. Pl. Br. at 12-13 (citing PX 6265 at A5; PX 6248 (2010 ANI Rating Guide); PX 6354 at 190 (Hoffman Dep.)). Moreover, the Government presented no evidence that industry-wide insurance premiums would be priced differently if DOE performed under the Standard Contract. Pl. Resp. at 53-54.

Mr. Hoffman, ANI’s Director of Underwriting, testified that SMUD correctly stated the premiums and premium multiplier for each year. PX 6354 at 83-86, 92-111, 116-18 (Hoffman Dep.); *see also* PX 6224; PX 6225; PX 6226; PX 6248 (2010 ANI Rating Guide). With the exception of certain premium multipliers, the factors in the 2010 Rating Guide were not changed during the years 2004 to 2009. PX 6354 at 21 (Hoffman Dep.). Mr. Hoffman’s analysis, however, did not account for the presence of Class B and C waste onsite, because ANI’s rating procedures do not list the presence of low-level waste as a ratings factor for shutdown facilities. PX 6248 at 9 (2010 ANI Rating Guide, Section I.J.3) (“If a unit at a reactor facility is permanently shut down, that unit is eligible for premium credit as follows: . . . Fuel Shipped Offsite or in Dry Storage”); *see also* PX 6354 at 86-87 (Hoffman Dep.) (relying on Section I.J.3 of the 2010 Rating Guide). The presence of low-level waste, however, was to be expected during that period, because SMUD was decommissioning Rancho Seco. PX 6354 at 132

(Hoffman Dep.) (stating that exposure under the Suppliers and Transporters Policy would be lower if SNF was offsite, because “there likely would be fewer shipments . . . of low-level waste involving the spent fuel facility”); PX 6354 at 173 (Hoffman Dep.) (confirming that SMUD would be decommissioning the byproducts of the nuclear facility, including low-level waste).

As to insurance costs in 2009, when the decommissioning was completed and SMUD’s nuclear license terminated, SMUD had no further need to maintain a nuclear insurance policy and would have terminated the ANI insurance. PX 6354 at 191-92 (Hoffman Dep.). In addition, by 2009, SMUD also would have terminated its NEIL insurance policy for real and personal property at Rancho Seco. Pl. Br. at 13 (citing TR at 132-33 (Ronningen)). Moreover, there is no evidence to support the proposition that SMUD would have made a business decision to keep the Class B and C waste onsite after decommissioning was completed in 2008. In fact, SMUD would have had every incentive to remove all radioactive waste offsite so that it could terminate the NRC licenses and exit the nuclear industry. TR at 249 (Ronningen); TR at 751 (Redeker). Accordingly, it is speculative to assume that SMUD may have maintained its NEIL insurance for unidentified “legacy exposure issues,” and SMUD’s ANI and NEIL costs of \$464,222 are therefore recoverable in full beginning in 2009. Pl. Resp. at 57.

b. The Government’s Response.

The Government responds that SMUD is not entitled to recover the cost of ANI premiums paid during 2004 to 2008, because SMUD’s SNF would have remained onsite. Gov’t Br. at 39. In addition, Mr. Hoffman failed to consider whether the ANI premiums would have been required for the Class B and C waste that remained onsite and therefore SMUD’s qualification of its insurance costs is flawed. PX 6354 at 149 (Hoffman Dep.); *see also id.* at 49-52, 57-58 (stating that the facility form policy and master worker policy covered damages arising from low-level waste, such as Class B and C waste). In fact, the decision to continue to store Class B and C waste onsite was a business decision that was not caused by DOE’s breach. Gov’t Br. at 41; Gov’t Resp. at 25. In addition, Mr. Hoffman’s analysis was also flawed, because he utilized the current-day premium rating guide, not the rating guide from 2004 to 2008. PX 6354 at 92-93, 99-104.

SMUD also has failed to meet its burden of proof to show that it would not have incurred ANI and NEIL premiums in 2009. Gov’t Br. at 43. As for the NEIL insurance, SMUD relied solely on the testimony of Mr. Ronningen that because decommissioning was completed in 2009 such costs are “directly associated with the oversight of fuel[.]” TR at 133 (Ronningen). But, Mr. Ronningen also testified that the continued storage of Class B and C waste onsite would require NEIL insurance. TR at 225 (Ronningen). In addition, the NEIL insurance agreement does not state that the insurance is directly associated with or otherwise required by the presence of SNF. DX 6230 (Apr. 10, 2009 NEIL Insurance Agreement). Further, SMUD did not establish that NEIL insurance was not otherwise required in 2009 in light of Rancho Seco’s potential legacy issues and other ongoing activities, such as the switchyard, backup control center, and photovoltaic plant. Gov’t Br. at 44. As to the ANI insurance, SMUD specifically failed to demonstrate that it would not have maintained the same level of ANI coverage, due to the presence of Class B and C waste onsite in 2009. Gov’t Br. at 44-45; Gov’t Resp. at 25.

c. The Court's Resolution.

SMUD's claim for increased ANI premiums for 2004 through 2008 is premised on SMUD's SNF being stored offsite during those years. The court has ruled in this case that SMUD's SNF would have remained onsite; therefore, SMUD is not entitled to its ANI insurance or NEIL insurance costs for those years. *See also SMUD VI*, 91 Fed. Cl. at 13-14, 18. In addition, the court has determined that SMUD would exit the nuclear industry beginning in 2009, including no longer storing class B and C waste onsite. TR at 199, 200, 206 (Ronningen). Therefore, SMUD would have had no reason to pay ANI premiums in that year in the non-breach world.

SMUD's NEIL property insurance "provide[s] protection against the financial consequences of accidents at nuclear power generating stations, which may not otherwise be available, or available on the terms and conditions provided by NEIL." DX 6230 at SMUDII277324 (Apr. 10, 2009 NEIL Insurance Agreement). Mr. Ronningen testified that NEIL insurance was required, because of the presence of the SNF, GTCC, and Class B and C waste that remains onsite at SMUD. TR at 221-25 (Ronningen). As such, the NEIL premiums are a mitigation cost that is "fair and reasonable under the circumstances." *Home Sav. of Am., FSB*, 399 F.3d at 1353. Contrary to the Government's argument, it is not necessary that SMUD establish that it is required by law to carry NEIL insurance. The Government's alternative argument that NEIL insurance is required because of unidentified "legacy exposure issues" is not supported in the record. The fact that other activities are ongoing at the Rancho Seco site—including: a backup control center; photovoltaic plant; and a switchyard—does not establish that SMUD otherwise would be required to maintain NEIL insurance. Although SMUD would need to incur some form of property insurance in the non-breach world, the Government has not stated what that cost would be. *See S. Nuclear*, 637 F.3d at 1304 (holding that it is DOE's burden to "move forward by pointing out the costs it believes the plaintiff avoided because of its breach"); *see also* DX 6230 at SMUDII277323 (Apr. 10, 2009 NEIL Insurance Agreement).

For these reasons, the court has determined that SMUD is entitled to \$371,880 for ANI insurance premiums for 2009 and \$92,342 for NEIL insurance premiums for 2009.

4. Whether Plaintiff Is Entitled To The Cost Of The Cosumnes Power Plant Explosion Analysis.

The Cosumnes Power Plant is a natural gas-fired power plant about a half-mile south of Rancho Seco that is owned by SMUD and was brought on-line in 2006. TR at 124 (Ronningen). In 2004, SMUD undertook an analysis to determine the effects of an explosion at the Cosumnes Power Plant on the ISFSI, where SMUD's SNF was stored. TR at 124 (Ronningen).

a. The Plaintiff's Argument.

This analysis was conducted in 2004 in anticipation of the Cosumnes Power Plant going online in 2006. PX 6088 (Engineering Analysis of Consumes Explosion); TR at 123-24 (Ronningen). If the SNF had been removed prior to 2006, this testing would not have been necessary. TR at 123-24 (Ronningen); PX 6353 ¶ 60 (Metcalf Written Direct); PX 6293; PX

6281 at KRGSMUDII-004317 to 004329. Therefore, SMUD argues that it is entitled to \$51,473 for testing costs to determine the effects on the SNF stored at Rancho Seco in the event of an explosion at the nearby Cosumnes Power Plant. Pl. Br. at 14.

b. The Government's Response.

The Government responds that SMUD is not entitled to the costs incurred for the explosion analysis because, in the non-breach world, SMUD would still have been required to conduct this analysis as SNF would have remained onsite at Rancho Seco. Gov't Br. at 46-47 (citing DX 6244 ¶¶ 33-34 (Maret Written Direct); TR at 177, 179-80 (Ronningen)); *see also* Gov't Resp. at 29-30 ("The analysis was performed during a period of time in which the SNF would have been on-site . . . even with timely DOE performance.").

c. The Court's Resolution.

In *SMUD VI*, 91 Fed. Cl. at 12-13, and herein, the court found that SMUD would not have removed its SNF offsite until 2008. As such, in the non-breach world, SMUD was required to undertake the potential explosion analysis in anticipation of the Cosumnes Power Plant going online in 2006.

For these reasons, the court has determined that SMUD is not entitled to recover the costs of the Cosumnes Power Plant explosion analysis.

5. Whether Plaintiff Is Entitled To The Cost Of Constructing A Wastewater Treatment Plant.

In 2008 and 2009, SMUD built a new wastewater treatment facility at Rancho Seco to correct a decrease in water quality caused by the Freeport Water Project undertaken by another municipal utility, East Bay Municipal Utility District ("East Bay MUD"). TR at 130-31 (Ronningen). SMUD also built a new wastewater treatment facility at the Cosumnes Power Plant in response to the decreased water quality. TR at 129-32 (Ronningen). Subsequently, SMUD entered into a \$5 million settlement agreement with the East Bay MUD to mitigate the costs of building these two facilities. TR at 131-32 (Ronningen), 742-43 (Redeker); *see also* DX 6222 (70/30/04 Freeport Regional Water Project Mitigation Settlement Agreement).

a. The Plaintiff's Argument.

If SMUD's SNF was removed prior to 2008, SMUD would not have been required to retain on-site staff or the wastewater treatment facility. Pl. Br. at 14 (citing TR at 91 (Ronningen)). Therefore, but for DOE's partial breach of the Standard Contract, SMUD would not have been required to construct a wastewater treatment plant at Rancho Seco. Pl. Br. at 14.

SMUD asserts that this mitigation activity was reasonable, because SMUD built an inexpensive zero-discharge system. Pl. Br. at 15 (citing TR at 130-31, 230-31 (Ronningen)). Therefore, SMUD argues that it is entitled to \$546,000 that it spent to build a new wastewater treatment facility at Rancho Seco in 2008 to serve the continued full-time staff required "to

operate, maintain, and secure the SNF.” Pl. Br. at 14 (citing TR at 128-30 (Ronningen)). Although SMUD received compensation in the settlement to offset the cost of building the wastewater treatment facility, that amount did not fully compensate SMUD nor allow it enough to implement the mitigation required at Consumnes. TR at 236-38 (Ronningen); TR at 743 (Redeker). SMUD adds that the savings recognized by SMUD from terminating its National Pollutant Discharge Elimination System (“NPDES”) permit¹⁷ should not be offset against the cost of this project because these are costs that SMUD “did not incur in the breach world, and would not have incurred in the non-breach world” and they merely “reflect[] the difference in costs saved between two choices of mitigation, of which SMUD implemented the less expensive.” Pl. Resp. at 61. In addition, although SMUD concedes that others visit the site, such visits are infrequent. TR at 118-19 (Ronningen) (noting that personnel visit “a few times a year” to operate the backup control center).

b. The Government’s Response.

The Government responds that SMUD is not entitled to recover costs incurred to build the wastewater treatment facility. Gov’t Br. at 48-51. This facility would have been required regardless of the DOE’s partial breach, because SMUD personnel serving and using other facilities at the Rancho Seco site, including the photovoltaic plant, backup control center, and electric switch yard, also use the wastewater treatment facility. TR at 118-19, 228-29 (Ronningen); *see also* DX 6228 at SMUDII410973 (“These additional industrial facilities will continue to be maintained and may expand to include additional commercial office use once the decommissioning is complete.”). Furthermore, the change to the water supply was caused by the Freeport Project, not by DOE, and bears no relationship to DOE performance. Gov’t Resp. at 27. This project was undertaken to mitigate the effects of the Freeport Regional Water Project (“Water Project”) that resulted in the Rancho Seco and Cosumnes Power Plants receiving low quality water and requiring SMUD to install expensive water treatment systems. Gov’t Br. at 50 (citing TR at 738-39 (Redecker)). To settle a dispute regarding this situation, SMUD agreed on July 30, 2004 to a \$5 million settlement. DX 6222 (July 30, 2004 Settlement Agreement). In addition, SMUD should offset any allowed costs by the \$5 million settlement that was intended as mitigation for the Freeport Project, but which SMUD spent elsewhere. Gov’t Br. at 51; Gov’t Resp. at 27-28; *see also* TR at 132 (Ronningen); TR at 742 (Redecker).

c. The Court’s Resolution.

The record indicates that the only employees who work regularly at the Rancho Seco site today, in the breach world, do so to monitor the nuclear waste that remains onsite due to the DOE’s partial breach. TR at 90-91 (Ronningen). In the non-breach world, SMUD employees would only need to visit the site “a couple of times a year.” TR at 118-19 (Ronningen). But,

¹⁷ Prior to constructing the wastewater treatment facility, SMUD was required to maintain an NPDES permit for discharging wastewater at a cost of approximately \$40,000 per year. TR 229-32 (Ronningen). Since the new facility was a zero-discharge system, SMUD only needed to obtain a county permit at a cost of approximately \$2000 per year. TR 229-32 (Ronningen).

other activities at the site, such as the backup control center, a photovoltaic plant, and a switchyard, would require water. TR at 118 (Ronningen).

SMUD did not meet its burden of demonstrating that it would not need to construct a waste water treatment facility at Rancho Seco in the non-breach world to support these other non-SNF operations. Nor did SMUD proffer any evidence of other options that would have addressed its water needs. A scenario in which SMUD's other operations could function without water at the site is unsubstantiated. Although SMUD employees only need to visit the backup control facility "a couple of times a year" to make sure it works (TR at 118 (Ronningen)), it is improbable to think that SMUD would not need fully-functioning water services at the site, in the event that a backup was needed to serve as the primary control center.

For these reasons, the court has determined that SMUD required a wastewater treatment facility, irrespective of DOE's partial breach, and received some compensation by way of the Freeport Project settlement to offset this cost. Therefore, SMUD is not entitled to mitigation costs to construct the wastewater treatment plant.

6. Whether Plaintiff Is Entitled To The Cost Of An Interim Onsite Storage Building.

In 2008, SMUD undertook the renovation of an existing building onsite at Rancho Seco called the IOSB. These renovations included paving, painting, and roof repair work required to make the building suitable for long term storage. TR at 125 (Ronningen). The IOSB was within the Part 50 licensed area of Rancho Seco, signifying that it was licensed to store nuclear waste materials. The IOSB subsequently housed various cask handling and loading equipment used to remove the SNF from the wet pool, including: a transfer trailer; the transfer cask; a hydraulic ram; a lifting yoke; a bailed fuel grapple; and other miscellaneous parts. TR at 125 (Ronningen). This equipment, however, became radioactive during the SNF transfer process, and had to be stored in a licensed facility. The IOSB was also used to store Class B and C waste. TR at 127 (Ronningen).

a. The Plaintiff's Argument.

SMUD argues that it is entitled to \$598,339 for mitigation costs related to the IOSB and 2009 operating expenses for the IOSB. Pl. Br. at 16. These costs were incurred because of SMUD's dry storage system and will be needed in the future, if SMUD is required to remove an SNF canister from the ISFSI. TR at 217 (Ronningen). Since the equipment stored in the IOSB has been contaminated, it needs to be held in a licensed facility, such as the IOSB, until it can be disposed of in compliance with NRC regulations. TR at 126-27 (Ronningen). More importantly, "DOE's failure to perform and the fact that SMUD would be storing SNF onsite indefinitely was the dispositive factor in SMUD's decision to keep the B and C waste onsite." Pl. Resp. at 50 (citing TR at 127, 193 (Ronningen); TR at 657 (Redeker)). Therefore, a key aspect of decommissioning Rancho Seco, in the non-breach world, would entail shipping all of SMUD's radioactive low level waste to a facility for final disposal, so that SMUD should be able to recover the cost of the IOSB, even though it is also used to store B and C waste. Pl. Br. at 17

(citing TR at 127-28, 182-83 (Ronningen); TR at 657 (Redeker)); *see also* DX 6034 (2002 Cost Estimate Data).

In sum, SMUD's decision to refurbish the IOSB, instead of building a new licensed facility, was the lowest cost and most reasonable mitigation. Pl. Br. at 16-17. Although SMUD is not required to maintain this equipment, it was reasonable to do so, because selling it would entail a cost, as would reacquiring and re-fabricating the equipment, if it is needed in the future. TR at 217-18 (Ronningen); *see also* TR at 192, 215 (Ronningen) (testifying that there was no other existing facility within SMUD's Part 50 license other than the IOSB in which to store equipment); TR at 216-17, 246 (Ronningen) (testifying that storage within the ISFSI likely would violate security requirements and would require upgrades to the area and building a new facility).

b. The Government's Response.

The Government responds that SMUD is not entitled to the costs of refurbishing or operating the IOSB, because SMUD made "an independent business decision completely unrelated to DOE's delay" to store Class B and C waste at the IOSB. Gov't Br. at 36 (citing DX 6244 ¶¶ 23-27 (Maret Written Direct)). In other words, in the non-breach world, SMUD still would have incurred these costs. Gov't Br. at 39. In addition, SMUD was not required to keep nor maintain the cask and handling equipment as part of its NRC license and, in fact, attempted to sell both after Rancho Seco was decommissioned. TR at 217-21; PX 6134 at SMUDII000350 (Aug. 31, 2006 Rancho Seco Weekly Update) (discussing potential sale of cask and handling equipment as they were "no longer necessary"). SMUD's position that there would be additional costs to dispose of the equipment and later reacquire it "lacks support and is irrelevant." Gov't Resp. at 21. SMUD made no calculation of the cost to rent equipment versus maintaining the equipment nor did any of SMUD's experts attempt to quantify these costs. TR at 220 (Ronningen). As a result, SMUD "failed to provide evidence upon which to account for any such costs in any damages analysis." Gov't Resp. at 22.

Likewise, the 2009 operating costs for the IOSB are not recoverable, because they were not required to mitigate the DOE's partial breach of the Standard Contract, but were caused by SMUD's independent business decision to store Class B and C waste onsite. *See Ind. Mich.*, 422 F.3d at 1376 (holding that there is no causation where a decision to re-rack SNF was "purely a business judgment which it would have had to pursue irrespective of DOE's partial breach"). Moreover, even if the costs to maintain the IOSB were nominal, DOE is not required to pay SMUD for these costs. Gov't Resp. at 22. On November 23, 2009, the NRC issued an Order that required licensees to implement enhanced security measures for any Class B and C waste stored in an IOSB. DX 6190. This supports the Government's position that the costs of these security measures were caused by SMUD's decision to store Class B and C waste onsite. Gov't Resp. at 22 (citing DX 6190 (Nov. 23, 2009 NRC Order)). Moreover, DOE's partial breach may have conferred a benefit on SMUD by allowing it to defer the need to incur disposal costs for the Class B and C waste, as long as the rate of cost increases for disposal was less than SMUD's internal rate of return. DX 6242 ¶ 39 (Neuberger Written Direct); TR at 738 (Redeker).

c. The Court's Resolution.

In the non-breach world, SMUD would not have refurbished the IOSB nor incurred operation and maintenance costs for the IOSB in 2009. But, in the breach world, the IOSB is required to store Class B and C waste that, in the non-breach world, would have been stored offsite. In the non-breach world, SMUD also would not be required to maintain transfer equipment, since SMUD's SNF and HLW would not be stored onsite.

Nevertheless, the Government argues that SMUD's decision to keep the transfer equipment onsite was neither required, nor reasonable. Gov't Br. at 37-38. But the Government did not proffer any evidence of an alternative solution. *Cf. SMUD V*, 293 F. App'x at 772 ("It is the Government's burden to show that it was unreasonable for SMUD to pursue dual-purpose storage canisters to mitigate the Government's breach."). In the court's judgment, SMUD's decision to maintain transfer equipment onsite at a comparatively low yearly expense that also was available in case of an emergency is "fair and reasonable under the circumstances." *Home Sav. of Am., FSB*, 399 F.3d at 1353. The Government's counter-argument that SMUD's actions were unreasonable, because SMUD could have sold the equipment, is undermined by the Government's recognition that SMUD attempted to do so without success. Gov't Br. at 38 (citing TR at 217-221(Ronningen)); *see also Ind. Mich.*, 422 F.3d at 1375 (holding that the plaintiff "is 'not precluded from recovery . . . to the extent that [it] has made reasonable but unsuccessful efforts to avoid loss.'" (quoting RESTATEMENT (SECOND) OF CONTRACTS § 350(2) (1981)) (ellipsis and alteration in original)). In the same vein, the Government's argument that SMUD cannot recover these costs, unless it was required by law to keep the equipment onsite, strains the standard for reasonableness. *See Home Sav. of Am., FSB*, 399 F.3d at 1353. SMUD is not required to establish with mathematical precision that it elected the lowest cost option, particularly where the equipment may be necessary in the event of an emergency.

Likewise, the Government's argument that SMUD's Class B and C waste caused increased security costs in 2009 is irrelevant, in light of the court's determination that the B and C waste would have been shipped offsite prior to 2009. Although SMUD "may have been conferred a benefit" by the DOE's partial breach, because low-level waste storage costs would increase, the Government's argument is speculative. In addition, the possibility that SMUD would benefit by this action, if and when SMUD ships this waste offsite, is not relevant. *See Carolina Power & Light Co.*, 573 F.3d at 1277 (holding that an offset is not appropriate for costs that are deferred, not avoided).

For these reasons, the court has determined that SMUD is entitled to \$598,339 in mitigation costs for the refurbishment and modification of the IOSB, and related operating expenses for 2009, because SMUD established that, in these "individual circumstances," SMUD "exercised reasonable judgment" in mitigating costs for the transfer equipment and storage onsite. *See N. Helex Co. v. United States*, 524 F.2d 707, 718 (Ct. Cl. 1975) (stating that the test is "whether, in the individual circumstances, the [plaintiff] exercised 'reasonable commercial judgment' . . . in the effort to mitigate damages").

7. Whether Plaintiff Is Entitled To Recover The Cost Of Nuclear Regulatory Commission Fees.

SMUD paid fees to the NRC under 10 C.F.R. Part 171 (“Part 171 fees”) that annually are charged to all nuclear utilities that have not permanently ceased operations or that still have nuclear fuel onsite. PX 6353 ¶¶ 63-64 (Metcalfé Written Direct).

a. The Plaintiff’s Argument.

SMUD argues that it is entitled to recover \$938,000 in Part 171 fees from 2004 to 2009. Pl. Br. at 18. Under NRC regulations, SMUD would not have been assessed these fees if SMUD’s SNF had been removed and stored by the DOE as required under the Standard Contract. *See* Final Rule, 64 FED. REG. 31,448, 31,455 (June 10, 1999) (stating that the “new annual fee will not be assessed to those reactors that have permanently ceased operations and have no fuel onsite”); *see also* PX 6353 ¶ 64 (Metcalfé Written Direct).

To the extent that SNF would have remained on site at Rancho Seco from 2004 to 2009, SMUD is entitled to recover all of the Part 171 fees, except for the decommissioning-related portion. Pl. Resp. at 66 (citing PX 6353 ¶ 64 (Metcalfé Written Direct); PX 6265; PX 6279; PX 6287; PX 6309; PX 6310; PX 6311). Prior to 1999, there were two Part 171 fees: one for operating utilities and one for utilities with dry-storage facilities. *See* 10 C.F.R. §§ 171.15(b), 171.16. Because SMUD did not fit into either of these categories, it did not pay any Part 171 fees. Pl. Resp. at 62. In 1999, the NRC changed the fee structure, after DOE’s partial breach of the Standard Contract. PX 6310 at KRGSMUDII-002780; PX 6311 at KRGSMUDII-002816 (1986 NRC Memorandum stating that the assessment of Part 171 fees “could create a disincentive for licensees to pursue dry storage”); *see also Boston Edison Co. v. United States*, 658 F.3d 1361, 1368 (Fed. Cir. 2011) (affirming the trial court’s ruling that the change in Part 171 fee structure was caused by DOE’s partial breach); *Consol. Edison Co. v. United States*, 92 Fed. Cl. 466, 513-16 (2010) (finding that the change in the Part 171 fee structure was caused by the DOE’s partial breach). Accordingly, SMUD argues that in the non-breach world in which the pre-1999 Part 171 fee structure was unchanged and SMUD continued to store fuel in the Rancho Seco wet pool, SMUD would not have paid a Part 171 fee, except for the decommissioning-related portion. Pl. Resp. at 65-66.

As to the Government’s arguments to exclude the testimony of Mr. Metcalfé, the work papers supporting his analysis of the recoverable portion of the Part 171 fees were included in his expert report and disclosed to the Government in December 2010. Pl. Resp. at 64 (citing PX 6279, PX 6287, PX 6309, PX 6310, PX 6311); *see also* TR at 859 (Metcalfé) (“[I]t says in my report, my report includes the work papers which are an integral part thereof.”). SMUD asserts that the Government had a full and fair opportunity to respond to Mr. Metcalfé’s opinions and did so via Mr. Peterson’s testimony. Pl. Resp. at 64 (citing DX 6245 ¶ 63 (Peterson Written Direct)). As such, the Government now cannot seek to exclude Mr. Metcalfé’s testimony on the grounds that the Government was “prejudice[d],” because Mr. Metcalfé’s opinion was not “buried” in his work papers. Pl. Resp. at 64.

b. The Government's Response.

The Government responds that SMUD is not entitled to Part 171 fees for the years 2004 to 2008, because SNF would have remained at the Rancho Seco site during this period. Gov't Br. at 51. Mr. Metcalfe's testimony that, even if the SNF had remained onsite after 2004, SMUD is entitled to recover some portion of the Part 171 fee, should be excluded, because SMUD failed to disclose this opinion during discovery. Gov't Br. at 53 (citing PX 6264 at 18 (Metcalfe Expert Report); *see also* RCFC 26(a)(2)(B) (requiring that an expert's written report contain a "complete statement of all opinions the witness will express and the basis and reasons for them"); *O2 Micro Int'l Ltd. v. Monolithic Power Sys.*, 467 F.3d 1355, 1368-69 (Fed. Cir. 2006) (holding that an expert's report must "contain a complete statement of all opinions to be expressed and the basis and reasons therefore"). The only opinion disclosed in Mr. Metcalfe's expert report related to NRC fees is based on SMUD's SNF being removed prior to 2004. PX 6264 at 18. Therefore, it is irrelevant that such a calculation ultimately may be found in his work papers, because an expert is required to disclose information in the expert report, *i.e.*, trial is not a "scavenger hunt" where the Government is required to search a "mass of binders" for relevant information. Gov't Br. at 57.

Even if Mr. Metcalfe's opinion properly were before the court, it should be rejected as unreliable as it is an "unsupported legal conclusion with no reasoning or explanation." Gov't Br. at 54 (citing Fed. R. Evid. 702 (requiring that an expert's opinion "help the trier of fact to understand the evidence or to determine a fact in issue;" be "based on sufficient facts or data;" and be "the product of reliable principles and methods;" and that "the expert has reliably applied the principles and methods to the facts of the case")). In this case, however, Mr. Metcalfe did not identify any factor or piece of evidence that led to his opinion, and there is no such evidence in the record about the spent fuel storage portion of the Part 171 fee. In addition, Mr. Metcalfe was an accountant without any expertise in the operation of nuclear plants or regulatory oversight of nuclear power plants. Gov't Br. at 56. Therefore, it is not surprising that Mr. Metcalfe's testimony failed to provide the court with a calculation of the amount of NRC fees to which SMUD could be entitled. Gov't Br. at 56 (citing TR at 856-57 (Statement of SMUD's counsel)). Only in Plaintiff's Post-Trial Brief did SMUD attempt such a calculation, but that calculation was not subject to discovery, and because Mr. Metcalfe stated during his deposition that he was not offering that calculation as an opinion, Mr. Metcalfe's testimony must be discounted. Gov't Resp. at 35-36 & n.14 (citing Pl. Br. at 67 n.11). As such, Mr. Metcalfe's testimony as to the NRC fees lacks foundation and is "unhelpful to the [c]ourt." Gov't Br. at 56.

Finally, the Government asserts that SMUD mischaracterizes the holdings in relevant decisions. Gov't Resp. at 34-35. For example, the appellate court has not held that NRC's fee structure changed as a result of the partial breach, but observed that this was a trial court determination that was not challenged on appeal in *Boston Edison Co.* 658 F.3d at 1368-70. Similarly, the trial court's determination that the change in NRC fees was caused by DOE's partial breach, in *Consolidated Edison*, 92 Fed. Cl. 466, was appealed to the United States Court of Appeals for the Federal Circuit.¹⁸ Moreover, SMUD failed to disclose that the trial court in

¹⁸ After the completion of briefing in this case, the United States Court of Appeals for the Federal Circuit issued *Consolidated Edison Co. of New York v. Entergy Nuclear Indian Point 2*,

Wisconsin Elec. Power Co. v. United States, 90 Fed. Cl. 714 (2009), also credited the testimony of a DOE official, who had concluded that the Part 171 fee change “would have occurred in 1999 even if DOE had begun performance in 1998[.]” *Id.* at 785-86. In sum, in each of these cases the plaintiffs produced evidence regarding NRC fees during discovery that was later considered by the court. Gov’t Resp. at 35. The Plaintiff did not do so in this case.

c. The Court’s Resolution.

SMUD argues that it is entitled to a portion of fees incurred from 2004 through 2008 because of the NRC’s change to the Part 171 fee structure following the DOE’s partial breach of the Standard Contract. The United States Court of Appeals for the Federal Circuit recently held that a plaintiff-utility “failed to prove either (1) that the NRC’s overall generic activity costs increased as a result of DOE’s breach, or (2) that DOE’s breach caused the NRC to change the generic fee structure in 1999,” and therefore was not entitled to Part 171 fees. *See Consol. Edison Co.*, 676 F.3d at 1340. The utility-plaintiff in that case presented no evidence “that its generic fees increased as a result of DOE’s breach.” *Id.* Therefore, the appellate court rejected subsequent public comments made by the NRC, as well as an internal memorandum by an NRC Commissioner, as “insufficient as a matter of law to demonstrate that the new NRC rules were the result of the government breach.” *Id.* at 1339. The public comments stated that the former Part 171 fee structure raised concerns that it “could create a disincentive for licensees to pursue dry storage.” *Id.* at 1338. In this case, SMUD relies on a November 5, 1998 internal NRC memorandum stating that the former Part 171 fee “raised two concerns: (1) the fee structure could create a disincentive for licensees to pursue dry storage, and (2) the fairness of assessing multiple annual fees if a licensee holds multiple ISFSI licenses for different designs.” PX 6311 at KRGSMUDII-002816. But, this evidence does not materially differ from that presented in *Consolidated Edison*.

For these reasons, the court has determined that SMUD failed to demonstrate that the Part 171 fee change was a result of the Government’s breach, so that SMUD is not entitled to recover any portion of its Part 171 fees from 2004 through 2008. The court, however, has determined that SMUD would have exited the nuclear industry in 2009 in the non-breach world. Therefore, in the non-breach world SMUD would not have been required to pay NRC fees for 2009 and, therefore, SMUD is entitled to receive \$118,750 in mitigation costs for the NRC fees that SMUD paid in 2009.

8. Whether Plaintiff Is Entitled To The Cost Of Greater-Than-Class-C Storage.

In 2004, SMUD began the process of physically dismantling and decommissioning Rancho Seco. Decommissioning was an extensive process involving the segmentation and removal of reactor vessel internals that are an integral part of the power plant containing the nuclear fuel. TR at 153-54 (Ronningen). The segmentation of the reactor vessel internals created a significant amount of low-level waste, categorized by DOE as Class A, B, and C waste,

LLC, 676 F.3d 1331 (Fed. Cir. 2012), holding that the plaintiff was not entitled to recover for Part 171 fees paid to the NRC. *Id.* at 1340.

and high-level GTCC waste. The GTCC waste was loaded into a canister like the ones used to store SNF and placed in the ISFSI for long-term storage. TR at 30, 91, 136 (Ronningen). A twenty-four-hour security service also is onsite, as required by NRC regulations. TR at 90-91 (Ronningen).

a. The Plaintiff's Argument.

SMUD argues that it is entitled to recover \$3,927,926 in mitigation costs incurred to prepare, segment, package, inspect, and load GTCC waste into the ISFSI. Pl. Br. at 19. The evidence presented in this case establishes that DOE would have picked up and stored SMUD's GTCC waste and SNF in the non-breach world. PX 6351 ¶¶ 40-41 (Stuart Written Direct); PX 6352 ¶¶ 11-15, 59 (Supko Written Direct); PX 6355 at 146 (May 8, 2002 Mr. Milner Dep. (*Yankee Atomic Elec. Co. v. United States*)), 254 (July 14, 2004 Dr. Bartlett (former Director of DOE's Waste Program) Direct); PX 6356 at 40, 49 (June 13-14, 2002 Campbell Dep. (*Yankee Atomic Elec. Co. v. United States*)), 59-62 (Aug. 10, 2004 Mr. Huizenga (DOE Assistant Deputy, Administration for the Office of International Material Protection and Cooperation) Direct).

Under the Standard Contract, DOE is responsible for providing acceptance criteria and the technical attributes of the transportation casks. PX 44 Art. IV.B (Standard Contract). Because DOE did not pick up the GTCC waste, SMUD was required to store it in the ISFSI. Pl. Br. at 21 (citing TR at 248 (Ronningen); TR at 764-65 (Grubb); PX 6358 ¶¶ 11, 22 (Snyder Written Direct)). To accomplish this, SMUD segmented its reactor vessel internals so that the GTCC waste would fit into a canister designed to be stored in the ISFSI. TR at 763-64 (Grubb); TR at 768-70 (Grubb); PX 6358 ¶¶ 23-26 (Snyder Written Direct). In the non-breach world, SMUD would have undertaken the GTCC waste segmentation and removal process in accordance with DOE's criteria, not the physical constraints of the ISFSI. Pl. Br. at 22 (citing TR at 760-75, 782-87, 819-20 (Grubb); TR at 138-40, 161-64, 185-87, 248 (Ronningen); PX 6358 ¶¶ 11, 13, 22-26, 38, 45, 48, 55, 68-69, 71, 73 (Snyder Written Direct)); *see also* Pl. Resp. at 43 (citing TR at 765, 787-88, 815-16 (Grubb); PX 6358 ¶¶ 13, 14, 69-70 (Snyder Written Direct)).

In the breach world, SMUD is required to incur the cost of preparing, packaging, and loading GTCC waste for transport from the ISFSI to a DOE facility, when and if DOE performs. Pl. Resp. at 44-45 (citing PX 6358 ¶¶ 13-14, 72-79 (Snyder Written Direct)). The segmentation tasks that SMUD would be required to undertake in the non-breach world were dependent on the type of transportation cask that DOE would select, but that design has not yet been elected by DOE. TR at 769-70, 785-86, 813-16 (Grubb); TR at 974 (Gelles); TR at 1063 (Jones); TR at 1081 (Maret); PX 6358 ¶¶ 68, 78-79 (Snyder Written Direct). Because the cost of packaging of GTCC waste for transport to a DOE facility has not occurred, allowing the Government an offset for GTCC waste loading costs would be inappropriate. Pl. Resp. at 42 (citing *Carolina Power & Light Co.*, 573 F.3d at 1277 ("This court rejects the argument that [plaintiff] has avoided the costs of loading casks such that the government should benefit from an offset in the damages award. Plaintiffs have not avoided the costs of loading. Rather, they have merely deferred these costs.")).

SMUD contends that the mitigation costs to procure the GTCC basket and canister and to load the basket and canister into the ISFSI are costs that SMUD is entitled to recover, because they “serve no purpose other than for the temporary storage of GTCC at the ISFSI.” Pl. Resp. at 49 (citing PX 6358 ¶¶ 45-48 (Snyder Written Direct)). These costs total \$977,583. Pl. Resp. at 49-50 (citing PX 6358 ¶¶ 45-52, 57, 59, 64-65 (Snyder Written Direct)).

Although the overall segmentation project cost \$15 million under a fixed-price contract with Transnuclear, Inc. (“Transnuclear”), SMUD’s damages expert undertook an independent detailed review of the project cost and determined that \$3,927,926 was solely related to the Government’s partial breach. Pl. Br. at 23 (citing PX 6358 ¶¶ 10-11 (Snyder Written Direct); *see also* TR at 138-39, 158-66 (Ronningen)). Despite difficulties in segregating the costs of the fixed-price contract, Mr. Snyder provided a thorough and reasoned basis for determining the costs that were GTCC-related. Pl. Br. at 23 (citing PX 6358, Part IV (Snyder Written Direct)). Moreover, the law does not require more where the Government has created the situation that caused the imprecision. *See LaSalle Talman Bank, F.S.B. v. United States*, 317 F.3d 1363, 1374 (Fed. Cir. 2003) (“[W]hen damages are hard to estimate, the burden of imprecision does not fall on the innocent party.”). The Government proffered no evidence disputing the accuracy of Mr. Snyder’s calculations. Pl. Resp. at 48-49.

In sum, “[j]ust as this [c]ourt awarded its damages related to the dry storage project in [*SMUD III*] to prepare and store the fuel during the period of the government’s breach, . . . so too should this [c]ourt award SMUD its comparable damages for its GTCC project.” Pl. Br. at 24; *see also* Pl. Resp. at 40-41 (comparing the Government’s argument regarding GTCC waste storage costs in this case to the Government’s rejected argument regarding SNF storage costs in *SMUD III*, 70 Fed. Cl. at 372-73).

b. The Government’s Response.

The Government responds that the costs to perform GTCC waste segmentation and removal are not recoverable, because these are activities that SMUD would have been required to undertake in the non-breach world to decommission Rancho Seco. Gov’t Br. at 26; *see also* Gov’t Resp. at 11 (“[N]othing in the RVI project was ‘caused’ by DOE’s delay.”). Specifically, SMUD was required to dismantle the reactor vessel and segment all of the vessel’s internal components, including all radioactive waste, whether it was Class A, B, and C waste, or GTCC waste.¹⁹ Gov’t Br. at 27 (citing DX 6243 at ¶¶ 12-13, 18, 23, 40, 42 (Jones); DX 6244 at ¶¶ 20-22 (Maret); TR at 182-87 (Ronningen); TR at 731-34 (Redecker)). Contrary to SMUD’s argument that it is entitled to segmentation storage costs, the United States Court of Appeals for the Federal Circuit in *Yankee Atomic* declined to hold that DOE is responsible for the costs of segmenting HLW. Gov’t Br. at 29 (citing *Yankee Atomic*, 536 F.3d at 1279 (confining a utility’s ability to recover GTCC-related storage costs)). In fact, the Standard Contract requires a utility to “arrange for, and provide, all preparation, packaging, required inspections, and loading

¹⁹ Class A, B, and C, waste are low-level radioactive waste SMUD had to segment and remove as part of decommissioning and for which responsibility is not assigned to DOE under the Standard Contract.

activities necessary for the transportation of SNF and/or HLW to the DOE facility.” PX 44, Art. IV.A.2 (Standard Contract). Therefore, SMUD is attempting to transfer GTCC waste removal and segmentation costs to DOE, contrary to the Standard Contract. Gov’t Br. at 31.

In addition, the evidence adduced at trial failed to establish causation as to the claimed GTCC-related portion of the Reactor Vessel Internals (“RVI”) project. The Government does not dispute that the method used by SMUD to remove and segment GTCC waste was the least costly and most efficient and, for that reason, SMUD would have undertaken the same project in the same manner and at the same cost in the non-breach world as it did in the breach world. Gov’t Br. at 31-32 (citing DX 6243 ¶¶ 28-30 (Jones Written Direct); TR at 770-71, 807, 809-10, 812-13, 818-19 (Grubb)). Moreover, SMUD could and did accomplish this task even without knowing the characteristics of the DOE’s cask. Gov’t Br. at 33-34 (citing DX 6243 ¶¶ 29-30 (Jones Written Direct); DX 6244 ¶¶ 20-22 (Maret Written Direct)). Therefore, Mr. Snyder did not establish that SMUD would not have performed the same segmentation and removal project in the non-breach world or that SMUD needed to segment the GTCC waste from the reactor vessel to provide it to DOE for shipment. Gov’t Br. at 30. In addition, Mr. Snyder improperly and speculatively relied on the Draft Environmental Impact Statement for the Disposal of GTCC Low-Level Radioactive Waste and GTCC-like Waste for the proposition that SMUD will need to undertake a significant additional segmentation project when the DOE performs. Gov’t Resp. at 19 (citing PX 6358 ¶ 74 (Snyder Written Direct)). As DOE’s Director of the Office of Disposal Operations testified, this document was not a final decision by the DOE, but a draft presenting a “bounding” set of assumptions. Gov’t Resp. at 19-20 (citing TR at 955-56, 964-65 (Gelles)). Therefore, these costs would have been incurred by SMUD absent the partial breach and are not recoverable. *See Energy Nw.*, 641 F.3d at 1307 (“If a cost would have been incurred even in the non-breach world, it is not recoverable.”). This includes the costs of loading the GTCC waste, the cask, and the canister. Gov’t Resp. at 14. Furthermore, SMUD’s argument that, absent DOE acceptance criteria, there is no way to know how the segmentation and removal would have occurred in the non-breach world ignores SMUD’s burden to establish the costs it would have avoided in the non-breach world. Gov’t Resp. at 12-13 (citing *Yankee Atomic*, 536 F.3d at 1273 (requiring the trial court to perform a comparison between the breach and non-breach world)).

SMUD also failed to establish with reasonable certainty the GTCC-related portion of its claim. Gov’t Resp. at 14 (citing *Wells Fargo Bank, N.A. v. United States*, 88 F.3d 1012, 1023 (Fed. Cir. 1996) (holding that damages “such as would have been realized by the party from other independent and collateral undertakings . . . are too uncertain and remote to be taken into consideration as a part of the damages occasioned by the breach of the contract in suit.”)). First, the Transnuclear executive in charge of SMUD’s RVI project admitted that he could not segregate how much of the fixed price contract was related to GTCC waste nor could he ascertain how precise an estimate would be. TR at 786-87 (Grubb). Second, SMUD’s expert, Mr. Snyder, failed to account for certain costs included within the fixed-price contract to determine if they were GTCC-related. TR at 797-800 (Grubb). Third, Mr. Snyder failed to obtain information from Transnuclear’s sub-contractors to determine if and what portion of their costs, such as tools, were GTCC-related. TR at 800-01 (Grubb). Fourth, Mr. Snyder included the total cost of the water processing equipment used to address water clarity problems in his estimate, but that issue arose prior to the removal of the GTCC waste and the same equipment was used to address problems related to Class A, B, and C waste as well. TR at 1156-57, 1162

(Snyder). Fifth, Mr. Snyder included SMUD internal labor costs in his estimate, but did not review any time sheets to determine whether the work was GTCC-related. TR 1161-62 (Snyder). Instead, Mr. Snyder allocated a percentage of the time charged to the overall RVI project to the GTCC-related portion of the project. Gov't Resp. at 17. Finally, the fixed-price contract did not identify the costs of the GTCC-related portion, but Mr. Snyder nevertheless concluded that "\$2.387 million" of the contract was GTCC-related. TR at 1147-49 (Snyder); PX 6358 ¶¶ 32-44 (Snyder Written Direct). In sum, Mr. Snyder either did not seek or ignored available information that would have provided a more accurate assessment of SMUD's GTCC-related costs. Gov't Resp. at 18. As a result, "the evidence [i]s insufficient to determine the quantum of [damages] to a reasonable certainty." *Bluebonnet Sav. Bank, F.S.B. v. United States*, 266 F.3d 1348, 1358 (Fed. Cir. 2001). Even if SMUD would have been required to undertake a different project in the non-breach world, those costs would have been greater than in the breach world. Gov't Br. at 34. The bottom line is that SMUD cannot show that it suffered a net loss, comparing the breach world to the non-breach world, and should not be permitted to recover for an actual world cost that it claims would have been greater in the non-breach world. Gov't Br. at 35 (citing *Bluebonnet Sav. Bank*, 339 F.3d. at 1346 (holding that it was necessary for the trial court to "make further determination as to what costs, if any, the plaintiffs would have incurred in the absence of breach and thus to ascertain the net financial effect of the breach on the plaintiffs"))).

The Government adds that a jury verdict method of determining damages is inappropriate here, because SMUD has not shown a "justifiable inability to substantiate the amount of [its] resultant injury by direct and specific proof[.]" Gov't Resp. at 18-19 (quoting *Joseph Pickard's Sons Co. v. United States*, 532 F.2d 739, 742 (Ct. Cl. 1976)).

c. The Court's Resolution.

To decommission Rancho Seco, SMUD undertook a large RVI segmentation project. This entailed dismantling and removing the internals from the reactor vessel and then placing them in the reactor cavity. TR at 771 (Grubb). To protect against radiation, the reactor cavity was flooded with water, so that all of the segmentation work took place underwater in the reactor vessel. TR at 761 (Grubb). Removal of the various parts of the internals involved separating them from each other by milling and shearing off bolts and cutting apart various pieces. TR at 759-62, 770-71, 805 (Grubb). This project, however, created approximately 41,000 pounds of GTCC waste and about 300,000 pounds of Class A, B, and C waste. TR at 795-96 (Grubb); DX 6129 at SMUDII3113412 (Sept. 19, 2006 Transnuclear RVI Segmentation Project Final Report). SMUD was careful to minimize the amount of GTCC waste created and to separate it from A, B, and C waste. TR at 793-94 (Grubb). The GTCC waste consisted primarily of reactor vessel baffle plates and baffle formers that were removed essentially intact from the RVI. TR at 811-12 (Grubb). The GTCC waste was placed in the GTCC basket on the bottom of the reactor vessel cavity. TR at 771 (Grubb). In addition, GTCC "chips" created by the shearing and milling process were collected and placed into the GTCC basket. TR at 772-74 (Grubb). While in the reactor cavity, the GTCC basket then was placed inside a previously constructed storage canister, similar to those used by SMUD to store SNF. TR at 1152-53 (Snyder). This canister then was removed from the reactor cavity, vacuum dried, backfilled with helium, welded shut, and in

February 2006 was moved into the ISFSI. TR at 761-62 (Grubb); PX 6358 ¶¶ 26, 57 (Snyder Written Direct).

The United States Court of Appeals for the Federal Circuit has held that DOE is responsible under the Standard Contract for the disposal of GTCC waste. See *Yankee Atomic*, 536 F.3d at 1278-79. SMUD argues that its GTCC waste and SNF would have been picked up at the same time. The record shows that this could have been accomplished under the “plus/minus twenty percent” provision of the Standard Contract and that the parties contemplated that DOE would not leave GTCC waste at a utility after SNF was collected. PX 6351 ¶¶ 40-41 (Stuart Written Direct); PX 6352 ¶¶ 11-15, 59 (Supko Written Direct); TR at 763-64 (Grubb); PX 6355 at 146 (May 8, 2002 Mr. Milner Dep. (*Yankee Atomic Elec. Co. v. United States*)), 254 (July 14, 2004 Dr. Bartlett Direct); PX 6356 at 40-41, 49 (June 13, 2002 Mr. Cambell (DOE Engineering Program Manager) Dep.), 59-62 (Aug. 10, 2004 Mr. Huizenga (DOE Assistant Deputy, Administration for the Office of International Material Protection and Cooperation) Direct). The Government does not dispute this point. Therefore, the court has determined that SMUD’s GTCC waste would have been removed by the end of 2008, along with SMUD’s SNF. Since SMUD’s GTCC waste would be removed in the non-breach world, the Government’s partial breach caused SMUD to incur GTCC storage costs. As such, SMUD is entitled to recover the costs of storage for its GTCC waste. See *Yankee Atomic*, 536 F.3d at 1279 (affirming the trial court’s holding that “the conclusions reached with respect to recoverability of SNF storage expenses are equally applicable to GTCC waste, which is stored on-site in the same manner as SNF”).

The court has considered SMUD’s claim for GTCC mitigation costs in two categories: costs that SMUD would have incurred in the non-breach world; and costs that SMUD would have incurred in the non-breach world but, in the breach world, that SMUD will incur in the future, *i.e.*, deferred costs. The first category includes the costs to remove and segregate GTCC in the reactor vessel. These are costs that SMUD would have incurred in the non-breach world, but will not incur again in the breach world, and are not recoverable. See *Energy Nw.*, 641 F.3d at 1307 (“If a cost would have been incurred even in the non-breach world, it is not recoverable.”). Nevertheless, SMUD insists that it is entitled to damages for these costs because the entire Reactor Vessel Internals segmentation project was driven by the need to store the GTCC waste in the ISFSI. But in the non-breach world, SMUD would have undertaken this project with direction by DOE as to its choice of canister. Pl. Br. at 22-23. Therefore, SMUD asserts that it is entitled to receive the entire amount as storage costs, until it is known what the project would have entailed in the non-breach world. Pl. Resp. at 41-42.

To the extent that SMUD would have incurred lower costs in the non-breach world, SMUD has the burden to demonstrate a plausible non-breach world establishing these lower costs. See *S. Nuclear Operating Co.*, 637 F.3d at 1304 (“As we held in *Yankee Atomic*, ‘[b]ecause plaintiffs . . . are seeking expectancy damages, it is incumbent upon them to establish a plausible ‘but-for’ world.’”). Conversely, to the extent that SMUD established that it would have incurred higher costs in the non-breach world, *i.e.*, avoided costs, the Government is entitled to an offset for those costs. See *Carolina Power & Light Co.*, 573 F.3d at 1277. Neither SMUD nor the Government, however, established with any reasonable certainty that SMUD’s segmentation costs would have been lower or higher in the non-breach world. Moreover, these

are not deferred costs that SMUD will be required to incur, if and when DOE performs. *See id.* To the extent that SMUD may be required by DOE to cut the GTCC waste into smaller pieces to fit into a DOE-selected canister in the future, that is not a cost that SMUD has yet to incur in the breach world.

The second category includes costs SMUD incurred to load the GTCC into the storage cask and then remove it to the ISFSI. These are costs that SMUD will be required, in the breach world, to incur again, if and when DOE performs. Therefore, they represent deferred costs for which SMUD is entitled to recover. *See Carolina Power & Light Co.*, 573 F.3d at 1277. Also falling into this category are costs for the design and fabrication of both the GTCC canister and GTCC basket.

SMUD states that the following mitigation costs fall into the “loading” category and are recoverable: (1) fabrication of the GTCC canister (\$224,431); (2) design and fabrication of the GTCC basket (\$250,000); (3) SMUD operations and maintenance personnel (\$84,965); (4) Bigge Crane operators (\$35,790); (4) contract surcharges to procure GTCC canister and GTCC basket (\$17,894.84);²⁰ (5) SMUD’s engineering costs related to developing, loading, and transporting the GTCC canister and GTCC basket (\$174,202); (6) labor surcharges associated with engineering costs (\$58,530.35); (7) radiation protection crew costs during transportation and loading of the GTCC canister into the ISFSI (\$67,567); (8) design of the GTCC canister (\$57,799); and (9) contamination protection clothing used to transport and load the GTCC canister into the ISFSI (\$6,404). Pl. Resp. at 49-50.

The court finds that the cost to procure the GTCC basket and the GTCC canister, and attendant design costs, are related directly to these loading costs. Likewise, SMUD’s associated engineering costs and labor surcharges are loading costs. And, the radiation protection crew and contamination protection clothing are loading costs, because they were incurred to conduct GTCC loading operations. These are costs that SMUD is entitled to recover.

The Government correctly asserts that SMUD also must establish these costs with “reasonable certainty.” *See Ind. Mich.*, 422 F.3d at 1373. To do so, SMUD must make a fair and reasonable approximation of the damages incurred. *See Locke*, 283 F.2d at 524 (“Certainty is sufficient if the evidence adduced enables the court to make a fair and reasonable approximation of the damages.”). The costs for GTCC canister fabrication, canister design, and GTCC basket and GTCC canister surcharges are specified in purchase orders and therefore were established with reasonable certainty. Although payment for the GTCC basket design and fabrication was a “milestone payment,”²¹ SMUD established this amount represents a fair and reasonable

²⁰ The Government concedes that the first four categories are “loading” costs. Gov’t Resp. at 20 n.8.

²¹ SMUD’s contract with Transnuclear to perform the RVI project was a fixed-price contract, with payments due upon completion of different milestones. PX 6084 (Transnuclear RVI Project Contract); *see also* PX 6358 ¶¶ 32 (Snyder Written Direct) (testifying that, based on his experience, “the values assigned in the itemized price list accurately reflect SMUD’s and Transnuclear’s understanding of the costs to perform those listed tasks”).

approximation of the cost to design and fabricate the GTCC basket. PX 6358 ¶¶ 32, 47 (Snyder Written Direct).

For these reasons, the court has determined that SMUD established the costs for the GTCC basket design and fabrication and GTCC canister design and fabrication of \$550,124.84 with reasonable certainty.

SMUD has also established Bigge Crane operation costs with reasonable certainty. SMUD determined the percentage of total Bigge Crane contract costs attributable to the GTCC project by “dividing the number of man-hours SMUD and Transnuclear anticipated would be spent on GTCC-specific tasks (16 shifts) by the number of man-hours SMUD and Transnuclear anticipated would be spent on segmenting the RVI in their entirety (103 shifts). . . . [T]his ratio [was chosen] because [based on Mr. Snyder’s experience] the price of a complex contract is often based on the anticipated amount of time required to complete that contract.” PX 6358 ¶ 44 (Snyder Written Direct); *see also id.* ¶ 51 (applying this methodology to Bigge Crane operations).

For these reasons, the court has determined that SMUD established Bigge Crane operation costs of \$35,790 that are attributed to GTCC loading and are a fair and reasonable approximation of these costs.

The costs of radiation protection crew and contamination protection clothing also have been established by SMUD with reasonable certainty, as they were verified by purchase orders placed in February 2006, the month during which SMUD loaded the GTCC basket into the GTCC canister and removed the canister from the reactor cavity for drying. PX 6358 ¶ 57 (Snyder Written Direct). Mr. Snyder attributed 50% of these costs in February 2006 to these “very high risk” activities. PX 6358 ¶ 57 (Snyder Written Direct). The court credits Mr. Snyder’s allocation as a “fair and reasonable approximation” of the radiation protection crew and contamination protection costs incurred for these loading costs. *See Locke*, 283 F.2d at 524. For these reasons, the court has determined that SMUD established radiation protection crew and clothing costs of \$73,971.

SMUD’s damages expert testified that SMUD employed four operation and maintenance personnel to work on the segmentation project doing a variety of activities related to GTCC loading, with one other operations and maintenance person performing work in a workshop related to both GTCC and non-GTCC work. PX 6358 ¶ 50 (Snyder Written Direct). Therefore, he allocated 80% of the operations and maintenance personnel costs to GTCC loading activities. PX 6358 ¶ 50 (Snyder Written Direct). The problem with this approach is that SMUD presented no evidence verifying with reasonable certainty what work the operations and maintenance personnel actually performed. A similar problem arises regarding engineering costs. SMUD’s damages expert estimated that at least 50% of SMUD’s engineering personnel’s time was dedicated to GTCC activities. PX 6358 ¶ 53 (Snyder Written Direct). The engineering costs claimed by SMUD, however, include both segmenting and loading activities without any differentiation. PX 6358 ¶ 52 (Snyder Written Direct). Since the engineering labor surcharges also are directly tied to the engineering costs, they must also be excluded. SMUD did not

establish with reasonable certainty its operation and maintenance personnel costs, engineering costs, and engineering labor surcharges.

For these reasons, the court has determined that SMUD is entitled to \$659,886 for the portion of the claimed costs related to loading the GTCC waste into the ISFSI.

9. Whether Plaintiff Is Entitled To Certain Overhead Costs.

a. The Plaintiff's Argument.

SMUD argues that it is entitled to \$5,485,649 for mitigation costs incurred for internal labor, contract costs, and purchased materials attributable to the Government's partial breach for the period 2004 to 2009. Pl. Br. at 24-26 (citing PX 6353 ¶ 42, 51 (Metcalf Written Direct); TR at 848-49 (Metcalf)). SMUD asserts that it established that the SAP accounting system it uses reliably tracks overhead costs, because it groups employees into cost centers and SMUD "loads" each employee's labor, allocating indirect costs necessary to support a direct labor cost center group to that group in the form of an indirect surcharge rate. TR at 262-63, 265-72, 274-75 (McAlister). For example, the employees in the direct labor cost center group charge their "loaded" time to a specific work order for activity on a specific project. TR at 262, 265-68 (McAlister). Indirect costs also are charged to a specific project, thereby reflecting the overhead costs. TR at 262, 265-68 (McAlister). In this case, SMUD has claimed labor hours worked by SMUD employees in mitigation of DOE's partial breach and indirect costs for "mitigation labor hours." Pl. Br. at 25 (citing TR at 265-68 (McAlister)). In addition, SMUD's damages expert, Mr. Metcalfe, reviewed SMUD's overhead claims and found them to be appropriate and properly supported. PX 6353 ¶ 51 (Metcalf Written Direct).

The Government's expert did not disagree with SMUD's allocations, but commented that, in other SNF cases, he found that the overhead costs were fixed rather than correlated with the total dollars spent on allocation bases. DX 6245 ¶ 48 (Peterson Written Direct). SMUD responds that it was not required to "recite what activities are performed by each of the cost centers[.]" Pl. Resp. at 68. Nor was SMUD required to analyze the impact of the Government's partial breach on the costs charged, the correlation between costs charged and project activity, or the correlation between costs charged and the general activity. Pl. Resp. at 68.

b. The Government's Response.

The Government responds that SMUD's overhead costs are barred by the law of the case and/or mandate rule, because the court previously rejected similar claims. Gov't Br. at 57 (citing *SMUD III*, 70 Fed. Cl. at 377 ("Although SMUD properly may have incurred \$2,497,724.00 for other overhead costs, SMUD failed to meet the burden of demonstrating that such costs, in fact, were incremental [to DOE's delay].")). This finding was not appealed and now is the law of the case incorporated by the United States Court of Appeals for the Federal Circuit's mandate. Gov't Br. at 58 (citing *Tronzo v. Biomet, Inc.*, 236 F.3d 1342, 1349 (Fed. Cir. 2001) (holding that a party's challenge to a damages ruling was barred by the mandate rule where the party did not raise issues on appeal that clearly were implicated in the trial court's initial decision)).

In addition, SMUD failed to meet its burden of proof to establish entitlement to overhead costs, because SMUD did not “tie DOE’s partial breach to particular overhead costs at issue to establish that DOE’s delay actually caused SMUD to sustain harm.” Gov’t Br. at 58-59. Moreover, SMUD was required to prove that it “incurred *additional* overhead costs.” Gov’t Resp. at 31 (citing *Sys. Fuels, Inc. v. United States*, 666 F.3d 1306, 1311 (Fed. Cir. 2012) (stating that a nuclear fuel supplier “incurred additional overhead costs when managing the [dry fuel storage project]”). In this case, SMUD did not “pinpoint[]” the activities performed at each cost center and did not provide any method to determine why certain costs were allocated to mitigation activities or if they relate to mitigation activities at all. Gov’t Br. at 59 (citing TR at 295-301 (McAlister)). Nor did SMUD analyze: 1) whether DOE’s delay impacted overhead costs; 2) the correlation between overhead costs and project activity; or 3) the correlation between overhead costs and general activity at Rancho Seco. Gov’t Br. at 59. Furthermore, SMUD’s damage expert did not tie SMUD’s claimed overhead costs to DOE’s partial breach. PX 6353 ¶ 51 (Metcalf Written Direct). Therefore, the overhead costs claimed by SMUD are general costs not attributable to breach-related project activities. Gov’t Resp. at 32.

c. The Court’s Resolution.

For the reasons previously discussed, the court has determined that the proper doctrine for determining the preclusive effect of the court’s findings in Docket No. 98-488 is collateral estoppel, not the law of the case doctrine nor the mandate rule. Collateral estoppel does not bar the court from adjudicating SMUD’s claim for overhead costs incurred from 2004 through 2009, because there has been “a significant change in the ‘legal atmosphere.’” *Bingaman*, 127 F.3d at 1438. In *SMUD III*, the court denied SMUD’s claim for overhead costs, because “SMUD failed to meet the burden of demonstrating that such costs . . . were incremental.” *SMUD III*, 70 Fed. Cl. at 377. Thereafter, the United States Court of Appeals for the Federal Circuit, in a different SNF case, rejected the position that a plaintiff-utility “must prove that additional costs were incurred as a result of DOE’s [partial] breach.” *Boston Edison Co*, 658 F.3d at 1370.

In other words, “[o]nce a plaintiff has proved that certain work was undertaken because of the breach (i.e., it would not have been undertaken in the non-breach world), he is entitled to prove the amount of the associated cost (including both direct and indirect costs) by whatever reasonable techniques are available.” *Energy Nw.*, 641 F.3d at 1309 (also holding that a plaintiff who furnishes such proof is not required to show that overhead costs increased as a result of the breach); *see also S. Cal. Edison Co. v. United States*, 655 F.3d 1319, 1322 (Fed. Cir. 2011) (“Because the ISFSI facilities had not existed prior to the Government’s breach, and indeed were necessitated by the breach, this is not a case where the underlying costs were incurred by operations independent of and unrelated to the breach.”). Therefore, SMUD must demonstrate only that overhead costs were fairly allocated to an activity that was caused by DOE’s partial breach, *i.e.*, that the costs were properly “loaded” to mitigation activities. Moreover, as a matter of law, overhead is considered fairly allocated where the allocation is made in compliance with generally accepted accounting principles (“GAAP”) and Federal Energy Regulatory Commission (“FERC”) regulations. *See Sys. Fuels, Inc.*, 666 F.3d at 1312 (awarding overhead costs where they were allocated in accordance with GAAP and FERC rules).

The Government argues that SMUD is not entitled to these costs, because it has not established: the exact activities occurring in each of the overhead cost centers; whether DOE's delay impacted SMUD's overhead costs; the correlation between overhead costs and project activity; or the correlation between overhead costs and general activity at Rancho Seco. Gov't Br. at 59. The Government, however, cites no precedent in support. To the extent that SMUD must show that claimed overhead costs were caused by the Government's partial breach, that may be established by fairly allocating overhead costs to activities that were caused by the breach. *See Energy Nw.*, 641 F.3d at 1309 ("The plaintiff may prove the amount of costs by whatever means available, so long as the cumulative result is a reasonable certainty that the awarded costs were actually caused by the breach."). Instead, the Government's argument attempts to resurrect the requirement that a plaintiff show that its overhead costs were incremental, which is no longer required. The words "additional overhead costs" in *System Fuels* does not change this analysis, as the United States Court of Appeals for the Federal Circuit applied the same framework for analyzing overhead costs as in all prior SNF cases discussing overhead costs. *See Sys. Fuels, Inc.*, 666 F.3d at 1311-12.

SMUD met its burden to show that it allocated its overhead costs by "loading" those costs to each employee and then directly charging that "loaded" time to the project on which that employee worked. TR at 262, 266, 269-73 (McAlister). This accounting system complies with GAAP and FERC requirements. TR at 848-49 (Metcalf); PX 6353 ¶ 42, 51 (Metcalf Written Direct). Moreover, SMUD only has claimed those overhead costs allocated to employee hours for work performed on mitigation activities. TR at 265-68 (McAlister).²²

For these reasons, the court has determined that SMUD is entitled to \$5,485,649 in mitigation costs for overhead.

10. Whether Plaintiff Is Entitled To The Cost Of Capital.

a. The Plaintiff's Argument.

Plaintiff argues that it is entitled to \$3,619,000 for "the increased cost of capital expended by SMUD related to each category of SMUD's damages." Pl. Br. at 8 n.1; PX 6353 ¶ 38, tbl. 1 (Metcalf Written Direct); *see also* PX 6353 ¶¶ 46-50 (Metcalf Written Direct); PX 6265 (Metcalf's Damages/Cost of Debt Binder A); PX 6266 (Metcalf's Damages/Cost of Debt Binder A). SMUD acknowledges that the United States Court of Appeals for the Federal Circuit has denied recovery for cost of capital in *System Fuels, Inc.*, 666 F.3d 1306, and *System Fuels, Inc. v. United States*, 457 F. App'x 930 (Fed. Cir. Jan. 19, 2012). SMUD, however, asserts that Judge Newman's dissent allowing recovery for the cost of capital in *System Fuels, Inc.*, 666 F.3d 1306, sets forth the proper standard. *See id.* at 1314-15 (Newman, J., dissenting).

²² And, as SMUD points out, the Government's economic damages expert, Mr. Peterson, did not dispute these aspects of SMUD's overhead costs, instead merely opining that these costs were fixed and therefore could not be awarded as damages. DX 6245 ¶ 48 (Peterson Written Direct).

b. The Government's Response.

The Government argues that SMUD is not entitled to recover for cost of capital. Gov't Br. at 63. The cost of capital claimed by SMUD is in actuality nothing but an attempt to recover interest in another name. TR at 896 (Metcalf); DX 6242 ¶¶ 40-41 (Neuberger Written Direct). Recovery of cost of capital is barred by the no-interest rule, set forth in 28 U.S.C. § 2516, absent a clear waiver of sovereign immunity or unambiguous agreement by the Government to permit such recovery. See *Library of Congress v. Shaw*, 478 U.S. 310, 314 (1986). No such waiver exists here. Gov't Br. at 63. Moreover, the United States Court of Appeals for the Federal Circuit has rejected claims for cost of capital in other spent nuclear fuel cases, including claims for interest paid on actual borrowings. See *Energy Nw.*, 641 F.3d at 1310-12 (denying recovery of interest paid on borrowed funds); see also *Sys. Fuels, Inc.*, 666 F.3d at 1311 (denying recovery for cost of capital); *Sys. Fuels, Inc.*, 457 Fed. App'x at 935 (same); *Boston Edison*, 658 F.3d at 1371 (same).

c. The Court's Resolution.

The United States Court of Appeals for the Federal Circuit consistently has held that plaintiffs cannot recover the increased cost of capital to fund mitigation-related activities. See *Sys. Fuels, Inc.*, 666 F.3d at 1310-11 (holding that the no-interest rule “denies claims for interest and ‘interest costs incurred on money borrowed as a result of the government’s breach or delay in payment’” (quoting *England v. Contel Advanced Sys., Inc.*, 384 F.3d 1372, 1379 (Fed. Cir. 2004))); see also *Energy Nw.*, 641 F.3d at 1310-12 (denying recovery for interest paid on funds actually borrowed to finance mitigation activities).

Following binding precedent, the court must deny SMUD's claim for the cost of capital, despite the contrary and persuasive reasoning of Circuit Judge Newman in *System Fuels, Inc.* See 666 F.3d at 1314-15; see also *England*, 384 F.3d at 1381-83 (Newman, J., dissenting).

E. Whether The Government Is Entitled To An Offset For The Costs That Plaintiff Would Have Incurred From January 1, 2004, Through 2008 To Operate The Wet Pool.

1. The Government's Argument.

The Government argues that SMUD's mitigation costs should be offset by approximately \$38 million to account for the wet pool “operating costs” that SMUD avoided for the period from January 1, 2004, through 2008. Gov't Br. at 18. This amount was derived by taking SMUD's wet pool storage savings of \$4.2 million per year, as determined by SMUD's Engineering Supervisor (DX 6214, and adopted by the court in *SMUD III*, 70 Fed. Cl. at 375 (finding that SMUD's wet pool costs in 2003 were \$4,196,360)), and adding that amount to the \$14.2 million cost of dry storage for 2004 through 2008. Gov't Br. at 21 (citing TR 1112-23 (Peterson); DX 6245 ¶¶ 60, 65 & Att. 10 (Peterson Written Direct)). The Government contends that the total of those two amounts is the estimated cost that SMUD would have incurred to operate the wet pool in the non-breach world. Gov't Br. at 20-21; see also *Yankee Atomic*, 536 F.3d at 1273

(requiring that damages awarded be offset by any costs plaintiff would have incurred in the non-breach world).

SMUD's \$4,196,360 in annual savings from 2004 through 2008 reflects only the labor savings achieved by transitioning from the wet pool to dry storage, not the total costs to operate the wet pool during that period. Gov't Br. at 20-21; Gov't Resp. at 5 (citing TR at 638-44 (Field)). SMUD, however, argues that this amount represents the total cost of operating the wet pool, but does not mention Mr. Field's testimony and instead relies on Mr. Ronningen, who had no part in calculating Mr. Field's savings figure in DX 6214. Gov't Resp. at 5 (citing Pl. Br. at 60). Therefore, the Government concludes that the logical way to calculate SMUD's total cost to operate the wet pool from 2004 through 2008 is to begin with Mr. Field's cost savings estimate, with certain adjustments.²³ Gov't Br. at 21-23 (citing DX 6245 ¶¶ 59-60 & Att. 9-a (Peterson Written Direct); DX 6245 ¶ 65, Att. 10-a & nn. 2-4 (Peterson Written Direct); TR 976 (Field); TR 1123-26 (Peterson)); *see also* Gov't Resp. at 6 (citing DX 6245 ¶¶ 60, 65 (Peterson Written Direct)). Under this approach SMUD's total cost of operating the wet pool in the non-breach world would have been the difference between the costs that SMUD would have incurred to operate the wet pool in the non-breach world, totaling \$24,286,336, added to the \$14.2 million cost of dry storage in the breach world. Gov't Br. at 23 (citing DX 6245 ¶ 65 & Att. 10-a (Peterson Written Direct)).

This amount also is consistent with SMUD's real-world estimates for the low end of wet pool operating costs. Gov't Br. at 23 (citing DX 755 at 4²⁴ (indicating reductions in costs of \$10–12 million per year after switching from wet pool storage to dry storage)); DX 760 at SMUD0028714; DX 871 at SMUD 062619. In addition, the Government's claimed offset of \$38 million is consistent with representations that SMUD made to DOE in 1999 that the cost to operate the wet pool was \$9.6 million per year (or \$48 million over five years) and that by moving to dry storage SMUD would save over \$8 million per year (or \$40 million over five years). Gov't Br. at 23-24 (citing DX 729 at RS006101-102 (Mar. 14, 1997 letter from SMUD's General Manager Jan Schori to DOE responding to requests for comments on SMUD's mitigation options, estimating wet pool costs in 1998-1999 of \$800,000 per month or \$9.6 million per year (or \$48 million over five years)); TR at 711-16 (Redeker) (same). And, it is consistent with representations made by SMUD to the court in *SMUD III*. Gov't Br. at 24 (citing Pl.'s Post-Trial Br. at 53, *Sac. Muni. Util. Dist. v. United States*, No. 98-488, Aug. 22, 2005, Dkt. No. 331) (estimating that the costs of continuing to operate the wet pool on a stand-alone basis was \$7.5 million per year or \$37.5 million over 5 years, excluding the transition to and cost of dry storage).

²³ The Government's economic damages expert adjusted this amount by applying SMUD's actual salary and labor rate information for the eliminated positions for the years 2004 through 2008 and adding \$50,000 for spare parts and materials savings costs as estimated in Docket No. 98-488C by Mr. Field, adjusted for inflation using the Consumer Price Index. DX 6245 ¶ 65 (Peterson Written Direct).

²⁴ But DX 755 at 13 indicates a \$19.44 million difference in annual "contribution" between the two options.

In sum, as SMUD previously agreed:

Had SMUD simply left its fuel in the pool, the 7½ years of additional wet storage costs (using an estimate of \$7.5 million per year for operating and maintaining a stand-alone pool) would equate to at least \$56 million in damages, 12 years of additional wet storage costs would equate to at least \$90 million, and 14 years of additional wet storage costs would equate to at least \$105 million, with the potential that all of these figures could have been higher because of the heightened and changing security requirements for pool storage of nuclear waste.

There can be little doubt that, had SMUD simply left its spent fuel in the wet pool during the entirety of DOE's delay and sought as damages all of the associated operating and maintenance costs resulting from the delay, the government would argue that SMUD failed to reasonably mitigate its damages.

Gov't Br. at 24 (Pl.'s Post-Trial Brief at 53 (Dkt. No. 331, No. 98-488C, Aug. 22, 2005)).

To the extent that SMUD now argues that its annual wet pool costs would not be much higher than its annual dry storage costs, SMUD's decision to implement dry storage could be viewed *ipso facto* as unreasonable mitigation requiring the court to reverse its prior \$53,159,863 award. Gov't Br. at 24. In any event, at a minimum, the court is required to reduce SMUD's claimed mitigation costs by \$20,981,800, or roughly \$4.2 million for each year that SMUD would have stored SNF onsite from 2004 through 2008, as SMUD admits. Gov't Br. at 24-25; Gov't Resp. at 4 (citing Pl. Br. at 57-59 (conceding that the court's prior offset of \$4.2 million is a reasonable estimate in the event that the court imposes a wet-pool offset)).²⁵

²⁵ The Government also adds that the court should reject SMUD's argument that DOE would have taken SMUD's SNF in January of whichever year the court determines to be SMUD's final year of acceptance. Gov't Resp. at 7-10. SMUD did not introduce any evidence in support of this contention at trial, nor does it cite any such evidence in its briefing. Gov't Resp. at 7. Instead, SMUD makes several problematic claims. First, SMUD asserts that it would have been able to select its delivery month under the Standard Contract, but it proffers no evidence in support and ignores the fact that DOE had the right under the Standard Contract unilaterally to reject any proposed delivery date. PX 44 at SMUD-0019687. In addition, SMUD's reliance on the trial court's opinion in *Dairyland* is misplaced. SMUD argues that it would have been easier to remove its SNF in the winter because Rancho Seco is located in a milder climate. The *Dairyland* court found that a plant located in Wisconsin likely would have had its SNF removed in the winter. *See Dairyland*, 90 Fed. Cl. at 627. In that case, however, the trial court relied on evidence of the existence of convenient roadway and rail access to support finding early removal, factors not present in this case. *Id.* In addition, the trial court's decision in *Dairyland* was based in part on the fact that that utility-plaintiff had only 7.9 MTU of SNF in its final year of acceptance, whereas SMUD would have had 82.1 MTU of SNF in its final year allocation. *Compare id. with* PX 3000 at 2. SMUD also asserts that utility-parties could schedule outages at any time to accommodate DOE's acceptance later in the year, but this ignores the fact that such outages are scheduled in advance, usually during spring and fall when demand for electricity is low. Gov't Resp. at 9 & n.5 (citing *The Fuel in the Reactor Core*, Duke

2. The Plaintiff's Response.

If the court determines that SMUD's SNF would not have been removed prior to 2004 in the non-breach world, \$4.2 million represents a reasonable estimate of SMUD's annual avoided wet pool costs to be offset against its recovery in this case, instead of the \$8 million annual offset claimed by the Government. Pl. Br. at 57.

In 2000, an analysis of SMUD's estimated wet pool costs was presented to SMUD's Board of Directors. DX 978A; TR at 668-71 (Redeker). This analysis estimated that in years with decommissioning, wet pool operating costs would be \$2.5 million, and in years without decommissioning, wet pool operating costs would be \$7.5 million. TR at 662-65 (Redeker). Wet pool operating costs were estimated to be lower in the years without decommissioning, because those costs do not include certain "baseload" costs shared with the decommissioning project.²⁶ PX 642; TR at 664-71 (Redeker). Because SMUD has not claimed these underlying shared costs in this case, it would be improper for the court to deduct them as an offset. TR at 100, 116-17 (Ronningen) (noting that these shared decommissioning costs are not included in SMUD's damages claim). Therefore, SMUD's analysis, accounting for price escalation and some deviation in costs, supports an annual offset of no more than \$4.2 million. Pl. Br. at 59. This amount is also consistent with Mr. Field's analysis of the cost savings achieved and positions eliminated after the ISFSI dry storage system was completed. TR at 639-42 (Field). And, it is also consistent with wet pool offsets in other SNF cases. *See, e.g., S. Cal. Edison Co. v. United States*, 93 Fed. Cl. 337, 347, 371-72 (2010) (\$3,757,908 for 10 months of wet pool costs); *Pac. Gas & Elec.*, 92 Fed. Cl. at 183 (\$4,744,000 per year); *Dairyland*, 90 Fed. Cl. at 627 (\$4,035,040 per year).

Although the Government now seeks an offset of approximately \$8 million per year or nearly \$39 million total for the years 2004 through 2008, the Government did not offer a single witness at trial with knowledge of wet pool operating costs and thus failed to establish its offset with "reasonable certainty." Pl. Br. at 56; Pl. Resp. at 35; *see also Sys. Fuels, Inc. v. United States*, 79 Fed. Cl. 37, 71 (2007) (holding that "any 'benefits' that the government seeks to offset must be shown to a reasonable certainty, or they must be denied as too speculative to meet the standards set forth by the Federal Circuit[.]"). Under the Government's new theory, the court is required to deduct both SMUD's annual wet pool costs of \$4.2 million, as well as actual costs of the transition to and cost of dry storage. In effect, the Government demands a double deduction of SMUD's wet pool storage and dry storage costs during this period, a position the court

Energy (Nov. 22, 2011), <http://nuclear.duke-energy.com/?s=mcguire+undergoes+another+outage>). Finally, the evidence presented in Docket No. 98-488C established that closing the wet pool was a complicated process, making it unlikely that, even if SMUD's SNF were accepted in January, it would have been able to close the wet pool immediately thereafter. Gov't Resp. at 9.

²⁶ This is illustrated by the ISFSI costs claimed in this case. For the years 2004 through 2008, when SMUD was decommissioning Rancho Seco, ISFSI costs were approximately \$2.8 million per year. In 2009, after decommissioning was completed, these costs increased by approximately \$2.5 million to \$4.3 million per year. Pl. Br. at 59.

previously rejected. Pl. Br. at 57 (citing *SMUD III*, 70 Fed. Cl. at 371 (determining that “[u]nder the circumstances, the [G]overnment, not SMUD, is responsible for operation and maintenance costs associated with storage of SNF[.]”). Moreover, the evidence does not support the Government’s proposed avoided wet pool costs. As Mr. Redeker testified, \$8 million per year was not an accurate estimate of SMUD’s wet pool costs. Pl. Br. at 60 (citing TR at 660-71 (Redeker)). Mr. Ronningen also testified that the ISFSI costs claimed in this case “are unrelated to wet-fuel operations.” TR at 113 (Ronningen). Instead, the Government cites Mr. Field’s use of the term “savings,” although he did not agree with the Government’s theory that it was proper to add “savings” to the ISFSI costs to ascertain the costs of a stand-alone wet pool. Pl. Resp. at 35 (citing TR at 638-42, 645-48 (Field)). Therefore, the Government rests its offset argument on estimated wet pool costs for the early to mid 1990s that depict expenditures at a time when SMUD was not engaged in decommissioning. See DX 755 (May 1997 Board Options/Objectives for Decommissioning, estimating savings of \$10-12 million); TR at 712-16, 752-57 (Redeker) (stating that decommissioning mainly started in the middle of 1997, with minor decommissioning activities beginning before then).

The Government’s supporting argument that the savings between wet and dry storage is not great enough for SMUD’s mitigation to be reasonable is incorrect, because the degree of mitigation is not the legal standard for whether mitigation costs are recoverable. See *N. Helex Co.*, 524 F.2d at 718 (holding that the “guiding principle” is whether “in the individual circumstances” the mitigating party exercised reasonable judgment); see also RESTATEMENT (SECOND) OF CONTRACTS § 350(2) (1981) (“The injured party is not precluded from recovery . . . to the extent that he has made reasonable but unsuccessful efforts to avoid loss.”). Moreover, the Government’s view of the success or failure of dry storage as mitigation is “short-sighted,” because it does not fully account for the ultimate duration of DOE’s partial breach or the safety benefits of utilizing dry storage in the interim. Pl. Resp. at 38.²⁷

3. The Court’s Resolution.

The United States Court of Appeals for the Federal Circuit has held that if a plaintiff is entitled to mitigation costs for a breach of contract, the mitigation costs incurred must be offset

²⁷ In addition, SMUD argues that “[t]he evidence establishes that SMUD likely would have been out early in any year of its final acceptance such that the Court should only deduct 10% of the costs of a full year or \$420,000.” Pl. Br. at 61. First, the Standard Contract allows SMUD to designate the month of delivery. Second, nuclear transport during winter months would be easier from a plant located in a milder climate, such as Rancho Seco. Third, operating utility-parties under the Standard Contract were allowed to schedule outages at any time of the year to accommodate acceptance later in the year. Since SMUD had small quantities of SNF, it would be easier to remove its SNF earlier in the year. Pl. Br. at 61-62. Moreover, even if one assumes a strict OFF acceptance, SMUD’s allocation in 2008 would fall within the first 10% of the 3,000 MTU SNF allocations accepted by DOE that year. PX 554 (1996 Annual Priority Ranking). For this reason, the *Dairyland* court reached a similar conclusion, determining that because a plaintiff-utility’s SNF would have been picked up in January of the year in question, the costs of storage should be awarded for the other eleven months of the year. See *Dairyland*, 90 Fed. Cl. at 627. This issue was not appealed.

by any avoided costs, *i.e.*, costs that the plaintiff would have incurred in the non-breach world. *See Bluebonnet Sav. Bank*, 339 F.3d at 1345 (“To derive the proper amount for the damages award, the costs resulting from the breach must be reduced by the costs, if any, that plaintiff would have experienced absent a breach.”). The Government has the initial burden to establish whether and what costs would have been avoided but for the breach. Then, the burden shifts to the plaintiff to establish those costs with reasonable certainty. *See S. Nuclear*, 637 F.3d at 1304 (holding that “a defendant must move forward by pointing out the costs it believes the plaintiff avoided because of its breach,” but “with respect to both claimed costs and avoided costs, plaintiffs bear the burden of persuasion”).

In this case, the parties agree that, in the non-breach world, SMUD would have continued to operate a wet pool until DOE removed SMUD’s SNF. Pl. Br. at 57-59; Gov’t Br. at 2; Gov’t Resp. at 4. The court herein ruled that SMUD’s SNF would have remained onsite until 2008. *See also SMUD VI*, 91 Fed. Cl. at 12-14. Therefore, the Government is entitled to an offset for the costs (not merely the savings SMUD achieved) that SMUD would have incurred to operate the wet pool from 2004 through 2008. Although the court determined in Docket No. 98-488C that \$4.196 million was the proper offset amount for 2003, the court explicitly left the resolution of the offset for the years 2004 through 2008 to be decided in this case. *See SMUD VI*, 91 Fed. Cl. at 19. That determination required further fact-finding.

The evidence presented established that SMUD did not operate the wet pool in the breach world during 2004 through 2008. *See SMUD III*, 70 Fed. Cl. at 374-75; TR at 639-40 (Field). But, during this time Rancho Seco also was undergoing decommissioning, so that SMUD incurred some additional costs during this period for that purpose.²⁸ SMUD’s reduction in costs attributed to moving SNF from the wet pool to dry storage, however, were not separately recorded from the costs attributed to decommissioning. TR at 667 (Redeker).

Instead, the evidence in this case contains several estimates of SMUD’s wet pool costs. *Compare* PX 642 (estimating costs of \$7.5 million to operate the wet pool in 2008)²⁹ *with* DX 6214 (Mr. Field estimating \$4.2 million in annual savings for dry storage instead of operating the wet pool); DX 729 at RS006101-102 (Mar. 14 1997 letter from SMUD’s General Manager estimating annual savings of \$8.1 million after SMUD’s SNF was removed from the wet pool to dry storage); DX 755 (SMUD’s May 15, 1997 Board of Director’s presentation on options for Rancho Seco dry storage, estimating savings for various alternatives to continuing wet pool storage and, at 13, estimating an annual “contribution” of \$18.35 million for “Transportable, dry storage (current concept),” but \$37.39 million to “keep fuel in spent fuel pool,” amounting to savings of \$19.04 million); DX 760 at SMUD0028714 (SMUD’s June 3, 1997 Board Finance Committee Presentation, estimating \$10-12 million in decrease in “expenses,” if “Dry Fuel Storage was used” instead of “Wet Pool Storage”); DX 871 at SMUD062619 (SMUD’s Sept. 2, 1998 Board Integrated Resources and Customer Services Committee (same)).

²⁸ This is illustrated by the fact that SMUD’s ISFSI costs in the breach world increased in 2009 after decommissioning was completed. TR at 117 (Ronningen).

²⁹ Following a request by the court, the parties were unable to locate any additional PX exhibits estimating SMUD’s wet pool costs.

SMUD, however, began with the proposition that in 2000 the estimated cost of operating the wet pool was \$2.5 million during decommissioning, but conceded an increase in this amount to \$4.2 million to reflect rising costs. Pl. Br. at 58-59. The Government insists that the court must start with the \$4.2 million in savings, as identified by Mr. Field (DX 6214), adding \$50,000 to cover estimated spare parts and materials, and \$2.84 million for the transition to and cost of dry storage, resulting in SMUD achieving annual savings, or avoided costs, of approximately \$8 million per year. Gov't Br. at 20-21.

Specifically, at trial evidence was proffered that SMUD avoided the following costs for the period of 2004 through 2008: (1) ISFSI Operations and Maintenance costs; (2) \$50,000 per year in estimated spare parts and materials; and (3) labor costs, with adjustments, from the transition from wet pool storage to dry storage.³⁰

The court has determined the ISFSI dry storage Operations and Maintenance costs for 2004 through 2008 amount to \$13,680,473. *See* DX 6245 Att. 1-c-2. In addition, the total avoided costs of spare parts and materials for 2004 through 2008 amount to \$273,783, taking into account inflation using the Consumer Price Index. DX 6245 Att. 10-a.

To determine the additional labor costs that SMUD would have incurred, the court examined Mr. Field's labor savings analysis identifying the reductions in personnel that occurred after SMUD's transition to ISFSI storage. DX 6214. Mr. Field's testimony identified three categories of personnel that would be needed to operate the wet pool in the non-breach world, but that were eliminated in the breach world: (1) security personnel who could be eliminated due to reduced security requirements for the ISFSI; (2) shared personnel who worked on both dry storage and wet pool operations; and (3) personnel who worked solely on developing the ISFSI, but were not needed after the ISFSI was complete. TR at 641-42 (Field). The first category of personnel represents additional costs that SMUD would have incurred to operate the wet pool. TR at 642 (Field) (testifying that SMUD was "able to eliminate 10 positions because the requirements of the dry storage physical security plan were less" than for wet pool storage). The third category of personnel was dedicated to the ISFSI project, but would not be needed to operate the wet pool in the non-breach world. TR at 641-42 (Field) (testifying that: the Senior Quality Engineer oversaw the manufacturing of the dry storage cask and canister; the Senior Nuclear Inspector primarily inspected the loading and closure of canisters; and the principal Mechanical Engineer position was eliminated because, after the completion of the ISFSI, the workload for mechanical engineers was reduced); *see also* TR at 1112 (Peterson) ("To my

³⁰ These costs were expected to be the same for both wet pool and dry storage, *i.e.*, labor costs and security costs. The ISFSI labor costs include the security officer costs that SMUD incurred from 2004 through 2008. PX 6265 at KRGS MUII007421A (work orders 1300452, 13004543, 13004544, 13006466, 13006580, and 13006581); TR at 111 (Ronningen). SMUD's ISFSI labor costs also include the "Old Fuel Storage – SMUD Staff" line item captured in Work Order 4002862. PX 6265 at KRGS MUII007421A. These personnel represent the "staff onsite directly responsible for the oversight of the fuel," separate from the security function. TR at 112 (Ronningen). Although Mr. Ronningen testified that these costs were "unrelated to wet fuel operations" (TR at 113), SMUD would have been required to incur these costs to operate the wet pool in the non-breach world.

understanding, [Mr. Field] was offering a modest deduction for the bottom three individuals [listed in DX 6214].”). Therefore, these costs are not included in the wet pool offset amount. The second category represents “shared” personnel, but is included because these employees were primarily associated with wet storage. *See* TR at 642 (Field).

It was SMUD’s burden to establish avoided costs with reasonable certainty, but SMUD has failed to do so. Accordingly, the court adopts the Government’s proposed offset, with some modifications. The court began with \$13,680,473, *i.e.*, the cost of dry storage operations and maintenance for 2004 through 2008, including the overhead costs. DX 6245 Att. 1-c-2. To that amount the court added the estimated labor savings from Mr. Field’s 2003-2004 estimates, adjusting for yearly salary changes, totaling \$24,286,336 DX 6245 Att. 10-a; DX 6214. The court eliminated three positions from that estimate, however, as those costs solely were related to ISFSI operations. The Government’s labor savings estimate for 2004 through 2008 therefore is adjusted to \$21,033,657. Adding the total labor savings to the total dry storage operations and maintenance costs for 2004 through 2008, as well as \$273,783 for estimated savings of spare parts and materials (DX 6245 Att. 10-a), resulted in a total offset of \$34,987,913 for the period of January 1, 2004, to December 31, 2008.

III. CONCLUSION.

For the reasons set forth in Docket No. 98-488C, *SMUD VI*, 91 Fed. Cl. at 18-19, SMUD is entitled to \$53,139,863 for costs incurred to mitigate the Government’s partial breach of the Standard Contract from January 1, 1992, to December 31, 2003.

In addition, for the foregoing reasons, the court has determined that, in Docket No. 09-587C, SMUD is entitled to \$20,703,595 for costs incurred to mitigate the Government’s partial breach of the Standard Contract from January 1, 2004, to December 31, 2009. The Government, however, is entitled to an offset of \$34,987,913 for wet pool costs SMUD avoided from 2004 through 2008.

Therefore, the court has determined that SMUD is entitled to mitigation costs of \$38,845,398 for the period from January 1, 1992 to December 31, 2009.

The Clerk is directed to enter judgment in accordance with this Memorandum Opinion and Final Order.

IT IS SO ORDERED.

s/Susan G. Braden
SUSAN G. BRADEN
Judge